*The Magazine of*

# STANDARDS

*Performance Standards Will Be Basis for Labeling Rayon* (page 92)

*October 1955*

The Magazine of
# STANDARDS
Formerly Standardization

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## IN THIS ISSUE



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## MARGINAL NOTES

**The Word "Standard"—**

To many, the word "standard" means drab uniformity — lack of progress.

Anyone who reads this issue of THE MAGAZINE OF STANDARDS, however, will realize that "standard" is the background for many exciting ideas. Take its application to textiles, for example (page 293). Here it means that a company makes fabrics that will not shrink, will hold their color, will stand up well under the use for which they are intended, and can assure its customers that this is so. "Standard" here means protection for the manufacturer against inferior products offered to the customer as something they are not.

Then, "standard" means safety. It means a platform established at a certain level from which to progress as techniques and methods progress (page 308). "Standard" means protection not only in one company, or one industry, or one nation, but world-wide, as shown in the recent action taken on compressed gas cylinders (page 303). Here is an outstanding example of the meaning of standards. How could manufacturers of medical gas cylinders, manufacturers of gas dispensing machines, and hospitals and doctors' offices using these machines, have changed over to this new safety system without a standard agreement on what was to be used, set down for all to see—around which all could rally? Only on the basis of a "standard" could this simple but effective safeguard have been put into use so widely throughout the nation—and now in the new recommendations for world-wide use.

Far from being drab, or boring, standards are frequently exciting—if one can see beyond the hard, grinding work of their development to their far-reaching effect on production, on economy, and even on individual welfare.

**Standards in Research—**

It is of special interest that standards were featured in the first issue of the new magazine created for executives in charge of engineering, research, and development — entitled *Research and Engineering*. Dr John Gaillard's article on "Platforms of Progress (page 298) was a feature of the July-August issue.

**Standards Engineers—**

At its Fourth Annual Convention, the Standards Engineers Society surprised even those closely allied with its activities. Some 250 people registered during the three-day meeting at Hartford. The audiences at every session were enthusiastic. A report of the meeting will be published in the November issue of THE MAGAZINE OF STANDARDS.

**Rounding Off Decimals—**

Recently, a question was asked concerning the principle to follow in rounding off decimals (THE MAG OF STDS, August, 1955, page 244). The reply called attention to a 1950 ASTM standard. This was all right as far as it went, but it overlooked the fact that there are two American Standards that apply. These are the American Standard for Rounding Off Numerical Values, Z25.1-1940 (Reaffirmed 1947) and the American Standard Practice for Inch-Millimeter Conversion for Industrial Use, B48.1-1933 (Reaffirmed 1947). This latter is the basic standard that simplifies the inch-millimeter conversion factor for industrial use to "1 inch equals 25.4 millimeters." A number of tables are included in the standard giving the exact equivalents of 1 through 25 inches in millimeters and 1 through 25 millimeters in inches. A table giving the equivalents of fractions of an inch in millimeters is also included.

The Rules for Rounding Off Numerical Values also contain a table showing the rounding off of decimals of from 1 to 6 places.

**Our Front Cover—**

Courtesy of *Charles Phelps Cushing*.

RAYMOND DAVIS

# This Month's Standards Personality

*Raymond Davis,* known as the man who belongs to more ASA photographic committees than any other individual, has been a member of the staff of the National Bureau of Standards for 44 years. This year he was one of two recipients of a Fellowship awarded by the Society of Photographic Engineers for "outstanding achievements in photographic engineering."

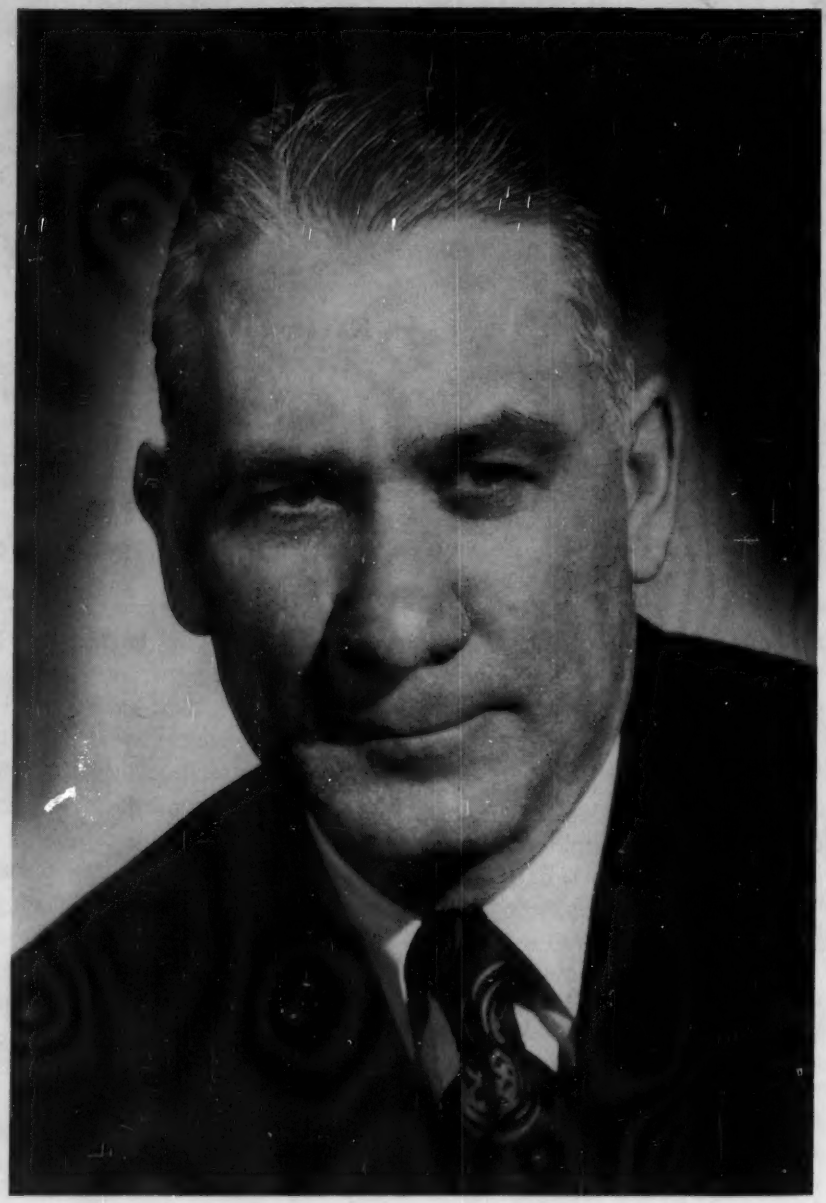
Mr. Davis directs the National Bureau of Standards' fundamental research and testing program in photography as chief of the Bureau's Photographic Section. Best-known of his research results is the Davis-Gibson series of reproducible liquid light filters. These are international standards for converting artificial light to daylight and sunlight quality and for determining color temperatures. He is credited with responsibility for development of the first camera capable of recording the entire cylindrical surface of a bullet as one continuous picture for identification purposes. He also developed a method of deciphering charred documents. These are only two of his many technical achievements. During World War II he perfected a camouflage material for marking military equipment with identification numbers which would not photograph with the usual reconnaissance camera and a device for recording airplane engine temperatures during power dives, for example.

For many years he has been chairman of the Federal Photographic and Photolithographic Specifications Committee.

In 1949 he received a merit award from the Department of Commerce "for many years of outstanding accomplishments in the field of photographic sensitometry and photographic standards."

An active member of ASA's photographic committees and a number of their technical subcommittees, Mr. Davis had helped to organize the original sectional committee on photography, known then as Z38. He had also been a member of the early War Committee that developed American War Standards to assure good performance of photographic equipment under the exacting conditions of military service.

Sailing, shooting, radio, and shopwork are Mr. Davis' hobbies. His home work shop is well equipped for both metal and woodworking. He has been a radio ham (3 WL) and a member of the American Radio Relay League. He was secretary and then president of the National Capitol Rifle Club and was a member of the rifle teams that represented the District of Columbia at national matches in 1929, 1935, and 1937. As for sailing, he says he "has the old-fashioned notion that sailing a good boat in a stiff breeze is the prince of sports."



# CRANWELL *Elected President of* American Standards Association

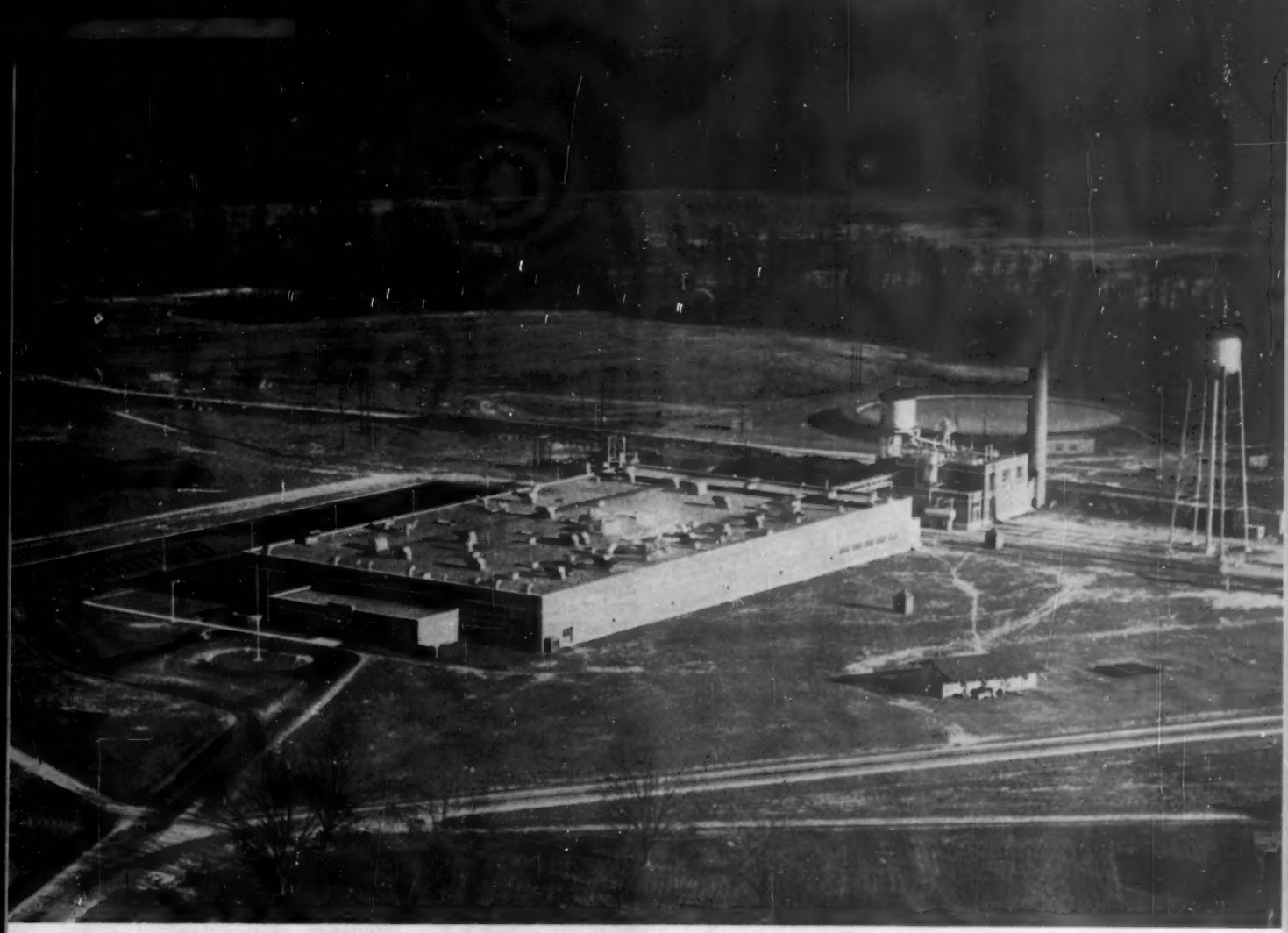
J. L. CRANWELL, vice-president of the Pennsylvania Railroad Company, New York, has been elected president of the American Standards Association.

Mr Cranwell will fill the post left vacant by the death of Edward T. Gushée, vice-president of the Detroit Edison Company. Mr Cranwell became a member of the Board of Directors of the American Standards Association, representing the Association of American Railroads, in January 1953. He was elected vice-president of the Association and took office as of January 1, 1955.

He is an officer and director of several other railroads and companies affiliated with the Pennsylvania System, and is chairman of the Eastern Operating Committee of the Railway Express Agency.

He is a trustee of the Citizens Budget Commission; a member of the New York State Chamber of Commerce, the Commerce and Industry Association of New York, the Hundred Year Association, and the Regional Plan Association of New York. He is also a member of the New Jersey Chamber of Commerce and the New Jersey Manufacturers Association.

A native of Louisiana and a graduate of the University of South Carolina, Mr Cranwell entered the service of the Pennsylvania Railroad in 1926. He has been successively superintendent, general superintendent, assistant general manager, and assistant vice-president with headquarters throughout the East and Middle West. Since April, 1953, he has been vice-president with offices at New York.



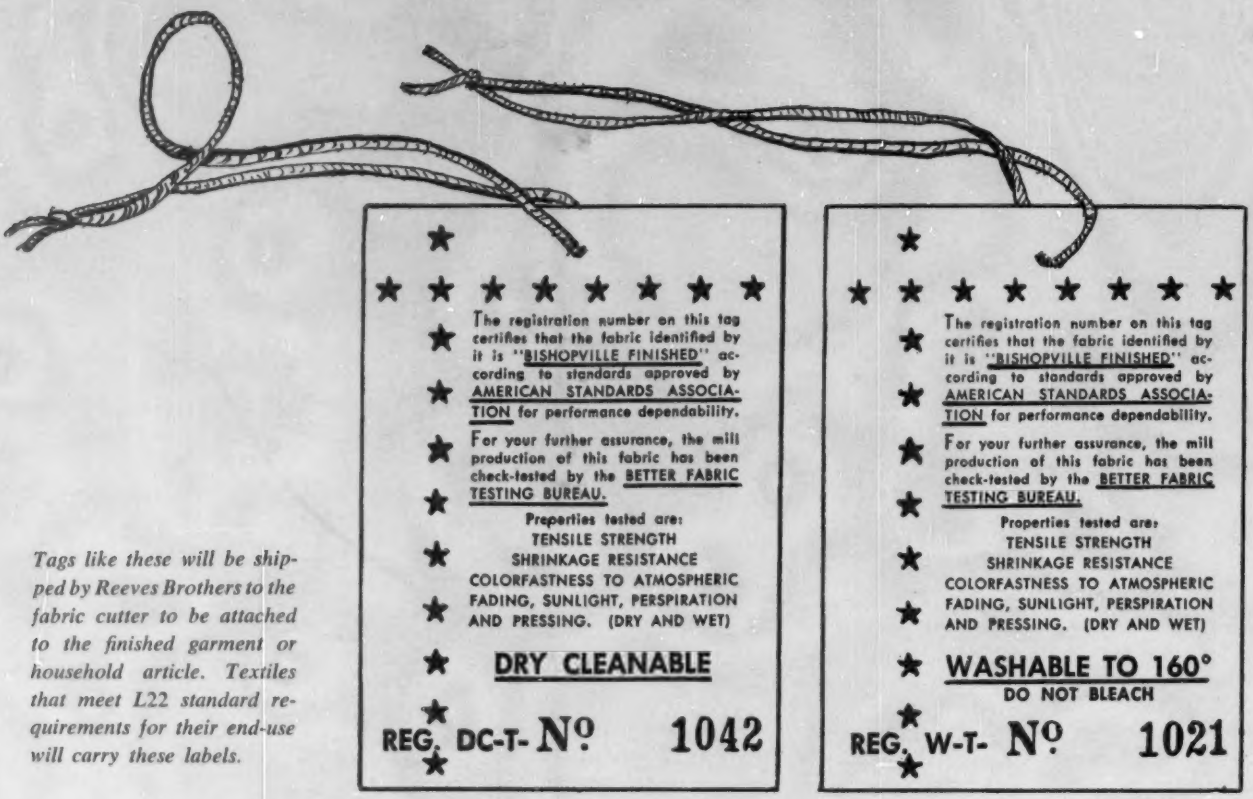
*Reeves Brothers' textile finishing plant at Bishopville, South Carolina.*

# *TEXTILE PLANT LABELS FABRICS—* Uses L22 Standards

RETAILERS and homemakers alike are hailing the first application of American Standards to assure satisfactory performance of rayon and acetate fabrics. The new policy was announced September 14 by John E. Reeves, president of Reeves Brothers, Inc, on behalf of the company's new finishing plant at Bishopville, South Carolina. The plant finishes textiles not only for Reeves Brothers but on contract for other textile converters as well. It is now using the L22 American Standards which specify performance requirements for the fabric in relation to its end use—for skirts, bathing suits, shirts, draperies, for example —and the standard test methods which tell how to determine whether a rayon or acetate fabric meets the requirements of the American Standards. It was pointed out that the standards do not restrict the color, weave, style, or fashion of the fabric but assure that it will perform satisfactorily under the service conditions for which it is intended. As a guide for proper finishing and checking, all contracts will be required to carry a statement indicating the end-use for which the fabric is to be prepared. By checking the fabric in accordance with the L22 standards as soon as it is finished, the company expects to make sure that all materials leaving the plant are satisfactory in all respects for the intended use.

The fabrics will be checked by the Better Fabrics Testing Bureau as well, and labeled to show conformance with the American Standard performance requirements. In order that retail store buyers can select materials that they know are satisfactory and can pass the information along to their customers, the company will ship labels with the fabric when it goes to the cutter. These labels are to be attached to the completed garment. Samples of all lots tested and a record of the test results will be maintained to prevent misuse.

Announcement of the new policy was made at a meeting in the offices of the National Retail Dry Goods Association, sponsor for the L22 standards under the procedure of




*Tags like these will be shipped by Reeves Brothers to the fabric cutter to be attached to the finished garment or household article. Textiles that meet L22 standard requirements for their end-use will carry these labels.*

the American Standards Association. NRDGA announced that it will recommend to member store buyers that they seek out and purchase rayon and acetate garments that meet the L22 minimum standards.

Mr Reeves' explanation of the company's program and what groups concerned think of it are quoted below.

## *WHY REEVES IS USING L22 STANDARDS*

*by* JOHN E. REEVES
*President, Reeves Brothers, Inc.*

Reeves Brothers has always emphasized *quality*—for the very simple reason that we find it practical. In the long run, we have found that better products mean better business.

Three years ago we organized and built one of the most modern synthetic fabric finishing plants in the country—at Bishopville, South Carolina.

To our dismay, from the day the Bishopville Finishing Company opened for business, it became enmeshed in one of the most peculiar situations recently to confront the textile industry—namely, no general standards of quality had been adopted for the industry and vicious price cutting was taking place during a period of general business prosperity.

I don't want to take up your time here to describe all the strange aspects of this situation. But one thing certainly became more and more evident. If some definite action wasn't taken, the whole rayon and acetate finishing business was headed for very serious trouble.

With this in mind, we have made a careful study of this situation and have determined to our satisfaction that there exists but one set of standards of quality that would answer the problem. This set of standards is known as the American Standards Association's L22, Minimum Requirements For Rayon and Acetate Fabrics. A great deal of credit is due those who are responsible for scientifically assembling this set of standards and making it available to the industry. I want to express a sincere tribute to the ASA for their work and to the NRDGA for their substantiation of the standard. It remained, then, for a finisher to put them in work. This we propose to do.

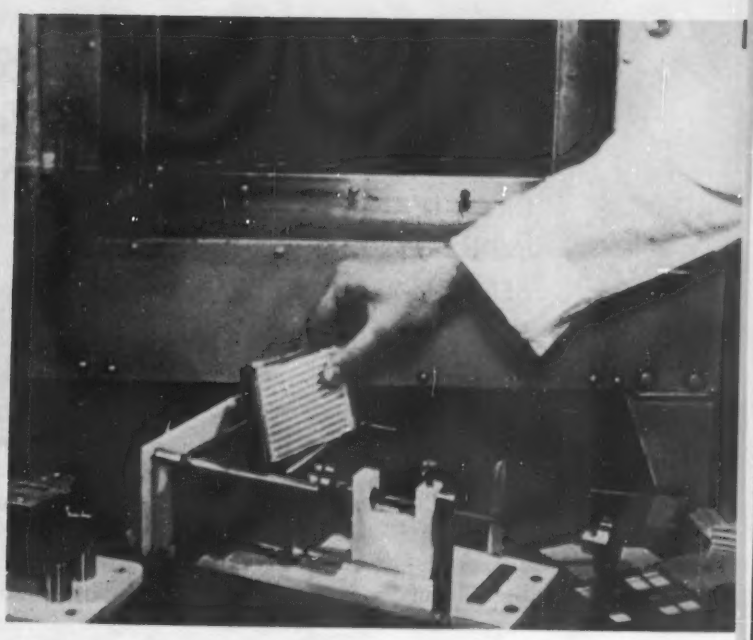
Today, the Bishopville Finishing Division of Reeves Brothers announces that synthetic fabric finishing will be made available to the converting trades under the standards of L22. It goes without saying that the unfinished or greige goods must be suitable for this quality of finishing.

Hang tags headed "BISHOPVILLE FINISHED" will be made available for the fabrics so treated. Samples of these tags have been distributed to you [see above].

As you can see, they refer to the various standards that have been met with regard to tensile strength, colorfastness, atmospheric fading, wash fastness, degree of launderability or drycleanability.

For further assurance, every fabric will be thoroughly tested in our own Bishopville laboratories and will be checktested for the L22 standards compliance by the Better Fabrics Testing Bureau.

It is our intention that any syn-

*To check on resistance to fading in sunlight, textiles for use in evening gowns are tested for 10 hours in a Fadeometer; drapery material for more than 40 hours. Several of these samples show noticeable fading after test.*

thetic fabric so finished will be as foolproof as possible against the many problems that have been causing so much trouble.

Furthermore, the prices for this work will be strictly competitive.

It is our hope that this move on the part of Bishopville will lead to a recognition by the finishing industry as a whole of the necessity of adopting this common standard control for quality performance.

## A RETAILER'S COMMENTS

*by* BENJAMIN H. NAMM

*President, Namm-Loeser's, Incorporated, Brooklyn, N. Y.*
*Past President, National Retail Dry Goods Association*

The National Retail Dry Goods Association enthusiastically hails the decision of Reeves Brothers to process goods in its Bishopville Finishing Plant which adhere to quality standards set forth by the American Standards Association.

It is particularly noteworthy that this quality program is being activated at the very time that stores and the public place a premium on quality of consumer goods. Not only does the NRDGA feel that the Reeves program is a milestone in textile history, but that it also points the way to similar action by all finishing plants.

As the sponsor of this American Standards Association project, the NRDGA is particularly happy at its adoption by so outstanding an organization in the trade as Reeves Brothers. The goods emanating from Bishopville will certainly set a quality standard that will be the goal of every other finishing organization.

We firmly believe that Reeves action will deserve acceptance by retailers and consumers alike. What is more it is an action in the typical American tradition of providing the public with the best merchandise

Devaney

*Perspirometer (above) checks resistance of dye to fading or migration of color.*
*The National Retail Dry Goods Association has announced plans to recommend that buyers in member stores purchase garments and household fabrics meeting performance requirements of L22 American Standards. L22 standards provide requirements for satisfactory performance of 51 end uses of rayon, acetate, and mixed fabrics.*

that America's inventive genius, research, and manufacturing methods can produce.

## HOW DRY CLEANING INDUSTRY BENEFITS

*by* ALBERT E. JOHNSON
*Director of Trade Relations, National Institute of Drycleaning*

Having had a large part in the development of the American Standard Minimum Requirements for Rayon, Acetate, and Mixed Fabrics, L22, the announcement of its first direct application by a prominent textile firm as a basis for quality controlled finishing comes as welcome news to the service industries. These industries are in touch with 98 percent of the homes in the United States servicing the clothing care needs of consumers everywhere. They are, therefore, especially sensitive to consumer problems and have long favored the use of broadly accepted guides in the dyeing and finishing of fabrics to assure end-use performance dependability.

By reason of their intimate contact with the countless numbers of textile products which daily flow through their plants, members of the laundry and drycleaning fields are particularly aware of the effect of textile finishing practices upon fabric performance. They regard the criteria of American Standards as essential to true performance satisfaction and to the goodwill of the consumers they serve across the nation.

The National Institute of Drycleaning, in representing the service industries on this occasion, expresses the hope that the new Reeves Brothers program to be carried on by its Bishopville Finishing Company is the start of a trend toward wide adoption of American Standards in the finishing field. In its initiation of this project, Reeves Brothers has greatly advanced the cause for greater service security for consumer textiles.

## WHAT HOME ECONOMISTS THINK OF STANDARDS

*by* MISS CATHERINE DENNIS
*President, American Home Economics Association*

Having shared in the development of the L22 standards for rayon and acetate fabrics, we believe that fabrics finished in accordance with their specifications will be highly desirable in terms of performance dependability and wear satisfaction.

Since the adoption of these standards, our members have watched for evidences that these standards are being used in the production of textiles. When the new labels of the Bishopville Finishing Company appear on retail counters across the country, we will feel that our hopes for widespread use of L22 standards may ultimately be realized.

The consumers of the nation, as well as the professional home economists, who work in the interests of consumers, are heartened by this forward step in textile production. We shall continue to encourage conformance to the American Standards and shall hope that many other finishers and textile interests will follow the example set for them today. We hope, too, that today's example will result in increased determination to extend American Standards to include textiles of all fiber types which are now being considered by ASA's Committee L25 and sponsored by the National Retail Drygoods Association.

## WHERE ASA STANDS ON L22

*by* ARTHUR S. JOHNSON
*Chairman, Standards Council, American Standards Association*

The role of the American Standards Association in the development of the L22 standard was primarily a judicial one. We certified that the standard was needed and wanted; that the L22 committee was comprised of competent people in the field; that groups substantially concerned were represented on the committee; and that the final standard drawn up by this committee was a consensus of the parties-at-interest. ASA did not "make" the standard and it had no voice in its content. The Association provided the machinery used by Committee L22 in developing the standard.

We at ASA want this and every other American Standard to succeed and be widely used on a national scale for the benefit of all concerned. Thus, we are pleased at this action by Bishopville Finishing Division of Reeves Brothers, for we believe it means a step toward wide use of the standard. We congratulate Reeves Brothers for deciding to use the standard in its production.

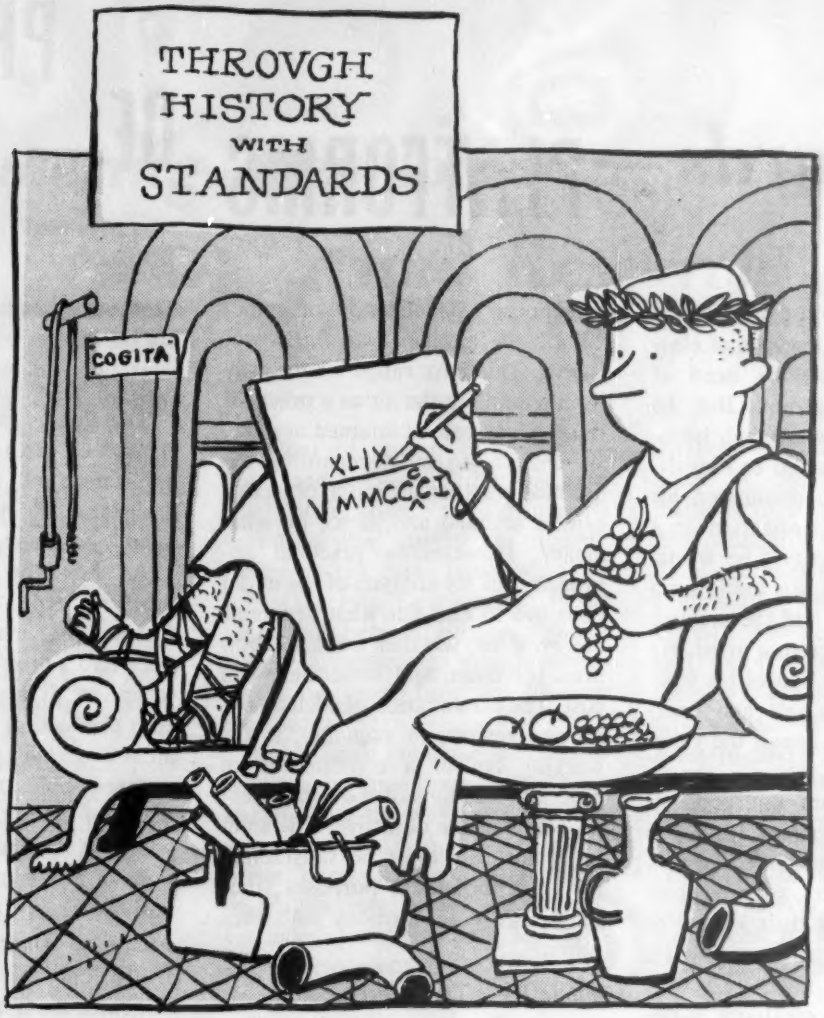
The NRDGA has shown wise leadership in developing the L22 standard. We commend both Reeves Brothers and the NRDGA for their initiative and vision. Their action is further evidence of a growing consciousness and understanding in the textile industry, especially at the top executive level, of the importance of standards.

We believe this new step will grow into improved public acceptance of rayon, acetate and mixed fabrics. We hope that this action will encourage wider participation by the textile industry in the current L25 project, which is developing standards in the field of all textiles other than rayon, acetate and mixed fabrics.

We at ASA have two convictions about L22, based on almost 40 years of national voluntary standards work.

First, L22 will work in the textile business because it was developed by experts in the field.

Secondly, national voluntary standardization has grown into a powerful movement because it consistently works economic benefits. Standards can achieve the same results in textiles that they have achieved in other industries. Among those benefits are smaller inventory, quicker turnover, lower unit sales cost, fewer returned goods, greater customer satisfaction and good will, and consumer safety.




## Plumbing Code

## 5. Second Series

Wherever the ancient Romans settled, they built public baths. Many of these were quite large and richly adorned. The baths of Carcalla in Rome, for instance, covered a square quarter-mile and had some 1600 marble seats for the bathers.

●

The Romans were marvellously skillful in constructing hot air flues and in heating and transporting their water. Nine aqueducts brought water into Rome. The water flowed to the top of a public bath building and down through tile pipes into boilers. Economizers were used to carry the excess and waste heat of the boiler to preheat the water.

●

Roman water pipes were built throughout the empire to standard sizes. Sextus Frontinus, Roman soldier and author, recorded (about 97 A.D.) that the standards were established by Augustus Caesar and were "set down and verified in the records of our most powerful and patriotic emperor, Marcus Trajan." The Roman engineer had no slide rule, no logarithms, no decimal fractions; but he was able to design the pipes in his plumbing in a rational array of sizes closely paralleling that used in modern engineering.

●

The whole range covered pipes from 29/32 in. to about 9 in. inside diameter. The first seven size gradations were arranged in an order corresponding to our modern concept of "preferred numbers" based on the root of 10. The upper limit of the geometrical progression in sizes is about the same for American steel pipe as for ancient Roman pipes.*

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The first formal attempt in this country to draw up national plumbing standards occurred almost 2,000 years later, in 1924, when the Department of Commerce, under Secretary Herbert Hoover, published suggested minimum plumbing requirements. The effort to create a single national voluntary standard code continued for the next 21 years.

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In 1934 the Department of Commerce withdrew from plumbing code development activity, and the work was continued as Project A40 under auspices of the American Standards Association. As work progressed, the need for a national code became more apparent and urgent. Some cities had no code governing plumbing equipment and its installation. Other cities had codes that were out-of-date. The codes varied from city to city. Several different codes began to compete with each other for acceptance as national standards.

●

In 1949 a Coordinating Committee for a National Plumbing Code was created under the sponsorship of the American Society of Mechanical Engineers (ASME) and the American Public Health Association (APHA). It organized a concerted effort among all groups to harmonize all codes and standardization activities in the plumbing field. In January, 1955, after many complications and much hard work, the report of this committee was adopted as the American Standard National Plumbing Code.

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This code is now being widely used by architects and contractors in the design and installation of plumbing equipment, plumbing equipment manufacturers in the design of their product, and states and cities as a basis for regulation and ordinances. The code is not mandatory. It is "national" in that it is supported by a national consensus, and in the sense that it is distinguished from the many different codes that have only local recognition and acceptance. More than 10,000 copies of the code were distributed in the first six months after it was approved.

●

In July 1955, in a general conference called by ASA, Project A40 was divided into two parts. Further work on the plumbing code will continue, jointly sponsored by the APHA, the National Association of Plumbing Contractors, and the Building Officials Conference of America. A project on dimensional standardization of plumbing equipment will proceed under the joint sponsorship of the ASME and the American Society of Sanitary Engineering. The object of both projects: to modernize existing practices; to coordinate the work of manufacturers, architects, contractors, law makers, building officials, and others; and to bring added economy and efficiency to maker, user, and buyer.

* Source: "Give the Ancients Their Due," Edmund A. Pratt, *Standardization*, February, 1949.

# *Standards* — PLATFORMS OF PROGRESS

A FEW years ago a man engaged in product engineering of classified work reported the need of standards in his group. But he warned that steps toward their introduction should be taken cautiously. Research men, who dominated his group, viewed standardization as a "destroyer of creativity," he wrote. A similar statement was made by a chief engineer who had the creative spirit and ability of a true artist. He held that any restriction of his freedom to select materials and component parts would impair the value of his work.

Such attitudes are not unusual. Through man's progress from the bow and arrow to the guided missile, designers, researchers, and inventors have been proud of their jobs. Nobody should deny their creativity. But neither should anybody accept the thesis that this creativity is destroyed, stifled, or hampered by standards—provided these are designed and applied the right way.

*Creative Planning*

Engineering, Development, and Research are closely related functions. They blend into each other like the colors of the spectrum, without clean-cut demarcation lines, yet with contrasting extremes.

Creative activity, common denominator of the three functions, presupposes visualization of something to be attained—an *initial objective*. This may range all the way from a castle in the air to a practical result which can be attained at once. We may begin by disregarding the question whether the initial objective can be attained and, if so, by what means. However, a practical approach calls for analysis of the initial objective to find out what problems are involved, whether we have solutions for them, and what these will cost. The combination of such analysis and review, or *planning*, is the working out of a combination of practical solutions of the component problems of the objective. The solutions not only must be satisfactory for their individual purposes; they must also be in harmony with each other.

*Three Basic Types of Problems*

In analyzing an initial objective, we may group its component problems under three types, A, B, and C, as in Fig. 1 (p. 300). Type A problems are those for which we have solutions at hand, such as designs of products that are being manufactured and for which blueprints and specifications are on file. Type B problems are known to be soluble, but their solutions have not yet been worked out. An example is the design of a new product similar to the units of a line of products being manufactured and not differing enough from these to present special difficulties. Since the basic information necessary for the solution of a problem, type B, is available, we know that it can be worked out, and we usually can estimate rather closely the time this will take. No such prediction can be made for the solution of a problem of type C. Here we have no solution at hand, nor do we know if one can be found. The best we can do is to start working on it.

*Three Planning Functions*

The three types of problems, A, B, and C, are to be solved by the application of functions generally designated as Engineering, Development, and Research, respectively.

As shown by Fig. 1, solutions of problems, type A, which result from *Engineering*, may be combined at once into a plan ready to be put into operation. It may be worthwhile to start production on the basis of such an *action plan* (No. 1) even though it meets only part of the requirements of the initial objective. Meanwhile we can start working out solutions of problems, type B, a function designated as *Development*. As an extension of something we have already done, these solutions are new, but since the nature of the problems is familiar to us, no basic experimenting is required. When the solutions have been found, they may be combined, if desired, with the solutions of problems, type A, into an action plan No. 2.

Solutions of problems, type C, usually take more time than do those of problems, type B. They often are basic, such as the development of new materials, methods, components, or equipment for which little or no information is available. This expedition into unknown territory comes under the heading *Research*. Before practical solutions are found, suitable for use by Engineering, the process of fact-finding may have to go through two distinct phases: Research, the establishment of fundamental data; and development, the preparation of a practical working basis for Engineering. Thus, Research may find a relationship be-

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*Dr Gaillard, now Management Counsel, and leader of the Gaillard Seminar on Industrial Standardization, was formerly a member of the staff of the American Standards Association. This article was prepared by Dr Gaillard for publication in the first issue (July-August, 1955) of the new magazine, "Research and Engineering." It is reprinted here by special permission.*

# in Engineering, Development, and Research

tween cause and effect, whereupon Development builds a pilot model of a device showing how this relationship works out, and Engineering translates the pilot model into the manufacturing design of a product.

Final solution of all type C problems makes it possible to put into operation action plan No. 3 which completely meets the requirements of the initial objective (Fig. 1). The diagram, Fig. 1, is a simplified representation of what is going on every day in countless industrial enterprises. The complete picture would include many more parallel lines symbolizing the solution of problems of different types and the adoption of action plans in various phases of achievement.

*Four Activities*

Subdivision of the initial objective into problems of types A, B, and C may serve also to draw a general distinction between Engineering, Development, and Research. Solving known problems by known means is daily routine for Engineering. However, its activities do not stop there. Engineering may also tackle new problems and solve them with known means, or it may apply new solutions to known problems as in Fig. 2. Both of these activities also come under Development and Research. To what function they are assigned depends, among other things, on the nature of the problem, such as its complexity. The fourth activity, Fig. 2, which is concerned with new problems whose solutions still have to be found, is typical for Research.

*Overlap of Engineering and Research*

As shown in Fig. 2, Engineering and Research each cover three out of four activities resulting from combinations of known or new problems, and known or new solutions. Each of the functions, Engineering and Research, covers one activity that does not come under either of the other two. Development forms an overlap between Engineering and Research, covering two activities which the latter functions have in common.

Evidence of the close relationship between the three functions (Fig. 2) is shown by the way in which they are organized in industrial enterprises. There are executives in charge of Engineering and Development, Engineering and Research, Research and Development, or all three functions combined.

*What Value Standards?*

If we consider the two activities, Nos. 1 and 4, Fig. 2, we readily understand the differences in attitude toward standardization often taken by men in charge of Engineering and Research, respectively. The "center of gravity" of Engineering normally lies in the application of known solutions and that of Research, in solving new problems. The concept "standard" has been broadly defined as "the solution of a recurrent problem." Engineering has many recurrent problems and, hence, an obvious need of standards. The researcher, who deals mostly with new problems that have not yet been solved, may—and often does—question the value of standards to his work.

In this connection the question may be raised how effective would be the researcher's activities if he did *not* have at his disposal standard symbols and definitions; standard units of measurement; standard methods of inspection and testing; and standard means of applying these methods, such as laboratory equipment, instruments, and reagents? The researcher may hold that all of these things are merely tools he is using—literally and figuratively speaking—the creative character of his work being far more important. Although granting this to be true, we might draw a parallel here: in manufacturing practice the "creation" of satisfactory product depends largely on the "quality" of the process by which it is made, including tools and equipment, which are accessories to the process.

There is, however, a still more fundamental argument in favor of standards which the researcher might well consider. Even though he may deal almost exclusively with objectives requiring *new* solutions, there are in practice no objectives that consist *entirely* of new problems. Therefore, the researcher is greatly assisted, even in his most creative activities, by having at his disposal numerous solutions of problems that have arisen before; that is, solutions which have become "standard." If the researcher can use them, he will save time, effort, and cost by doing so. If he cannot use available solutions, he will have to develop new ones—which is typical of his job. But this does not mean that the existing solutions must destroy, or even hamper, his creative efforts. If change from old to new practice presents difficulties, their elimination will be a problem for somebody else, possibly Engineering.

*by* JOHN GAILLARD

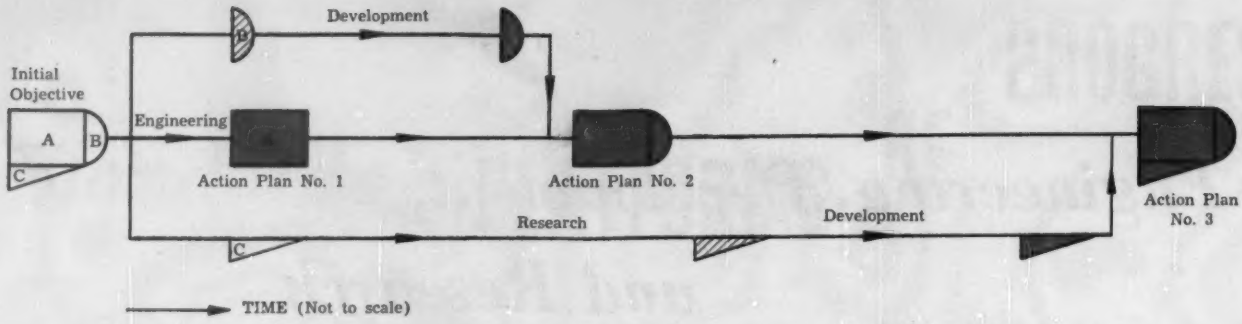



Fig. 1. *Planning the attainment of an objective.*

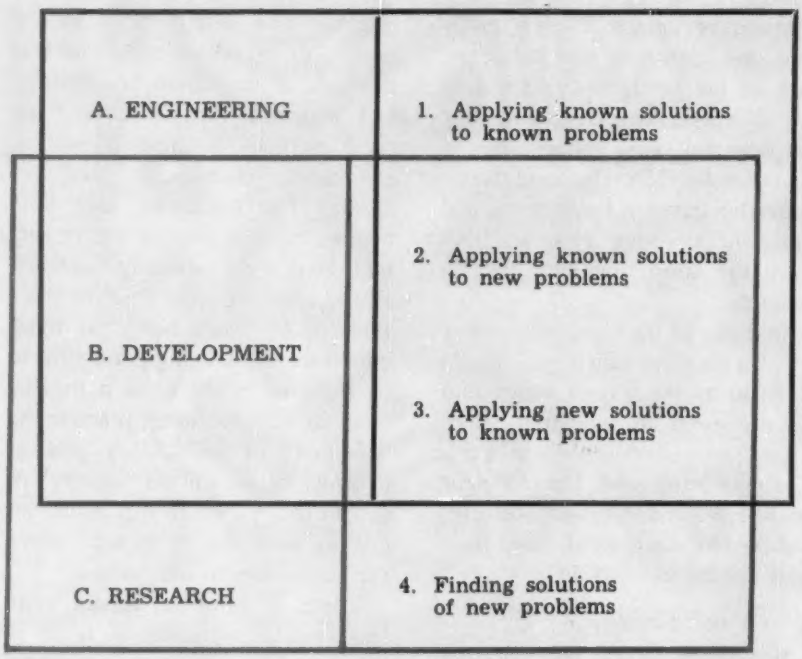



Fig. 2. *Four planning activities covered by engineering, development, and research.*

*Standards and Hypotheses*

If we go to the heart of the matter, we come to the conclusion that the researcher should be a firm believer in the value of standards even though he may call them by a different name. When he follows the approach to new problems that is most characteristic for his work, the scientific method, the researcher proceeds in three major stages. First he formulates an hypothesis based on the best information available to him. Then he designs an experiment to test the hypothesis and find out if it is true or false. Next he carries out the experiment to get the answer. The hypothesis thus serves as a tentative platform of assumption which the researcher tests for reliability as a supporting basis for a new rise to increased knowledge. The researcher will be the first to recognize the need of such platforms. And he will also agree that in principle each platform represents a temporary level of progress which must be shifted as he comes to know more about the subject under consideration.

Industrial standards similarly are temporary platforms in progressive planning and doing. They serve as bases for coordination and assembly of plans designed to meet temporary objectives. Here, also, the platforms must be shifted to new levels when planning aims at higher performance or quality as a result of demands of the market, technical progress, or both.

*Organized Standardization Benefits All*

The essential value of standardization as a harmonizer of human efforts toward attainment of a common objective finds increasing recognition. Much is gained if parties interested in a common problem are willing to exchange their views and are ready to compromise for the sake of a solution acceptable to all—be it sometimes with varying degrees of satisfaction.

The idea is not new. About twenty centuries ago, Epictetus made a statement that might well be pinned on the door of the company's Standards Department, for the attention of all parties concerned—and all *are* concerned with standards, one way or another. The statement reads:

> "The natural instinct of animated life, to which man is also subject, is self-preservation and self-interest. But men are so constituted that the individual cannot secure his own interest unless he contributes to the common welfare."

Freely translated into the language of the standardizer, this means that although each department of a company should be left free to set up its own standards for internal activities, it cannot escape responsibility for cooperation in the establishment of *company standards*. This applies to all functional activities, including Engineering, Development, and Research. Company standards are indispensable if the enterprise as a whole is to be integrated into a single effective and smoothiy operating unit.

# *Gaillard Seminar to Feature Company Standardization*

Company Standardization is the subject to which four out of the ten conferences of the January, 1956, Gaillard Seminar on Industrial Standardization will be fully devoted. Organized standardization can help to solve such company problems as inter-departmental coordination; the balancing of decentralization of authority against central coordination of control; multi-plant operations; diversification; company mergers; and organization by American firms of foreign subsidiaries. The new seminar will present greater opportunity for discussing such problems around the table, with special regard to problems that have arisen in the companies represented by the conferees.

The seminar will be held from January 23 through 27, 1956, in the Engineering Societies Building, New York City. Leader is Dr John Gaillard, formerly a member of the ASA staff and a lecturer at Columbia University. As a management counsel he now specializes in advice on problems of standardization.

Two conferences will be held each day, Monday through Friday, mornings from 9:30 to 12:00, and afternoons from 1:30 to 4:00.

In addition to Company Standardization, major subjects are the significance of standardization in technical and managerial activities; analysis of the essential functions of standardization as a basis for its application in various industries; forms of standardization (simplification, unification, and design of standards); its application at different levels, from the individual company to the international field; and the principles and practice of writing specifications.

Previous Gaillard Seminars have been attended by 282 men representing 155 organizations. Among those organizations were individual companies in the United States and Canada; trade associations and technical societies; the ASA and four foreign national standards bodies; the U.S. Army, Navy, and Air Force; National Bureau of Standards; Mellon Institute; Armour Research Foundation; and three engineering colleges.

For further details and registration, write to Dr John Gaillard, 400 West 118 Street, New York 27, N. Y. Places at the seminar may be reserved in advance.

## WHAT IS YOUR QUESTION?

**Where can I obtain an insulator thread gage to be used in gaging the thread of porcelain insulators as specified in Figure 5 of the American Standard, Insulator Tests, C29.1—1944, (AIEE 41—1944)?**

The chairman of Sectional Committee C29 reports that he knows of no particular place where these gages may be purchased. Those used by his company were made by the Armstrong Cork Company in Millville, New Jersey. Hubbard and Company, Pittsburgh, Pa, has made some insulator pin gages and it is possible that they would be willing to make the insulator thread gage. Otherwise, he states, almost any high-grade tool maker should be able to produce this gage from the specifications shown in American Standard C29.1-1944.

**Why does the style manual of the American Standards Association call for use of a zero before the decimal point?**

The answer is best stated for us by *American Machinist* in a recent reply to a letter to the editor: "Practical considerations dictate that the extra zero be used. When dimensions are printed, it is much safer to put a zero before the period, so if anything happens to the period there is some space between the zero and the first decimal place to indicate what the dimension should be. For some reason it also seems to have an effect on the printer. We have published articles in which we dropped the first zero, and found the printer wandering all over the lot, counting our zeros. Therefore, we have used the zero, not because we wanted to, but because we felt it was necessary insurance against somebody making a mistake."

**Do any American Standards specify requirements for employees' vision in relation to the job?**

The American Standard Safety Code for Cranes, Derricks, and Hoists, B30.2-1943, includes a requirement that no person with seriously defective eyesight shall operate a crane, derrick, or simple drum hoist. In the 1955 edition of the American Standard Safety Code for Industrial Power Trucks, B56.1, a statement is included that "No operator shall operate or drive an industrial power truck unless physically qualified by an examining physician. Visual acuity (either without glasses or by correction with glasses) shall be at least 20/40 in one eye, and 20/100 in the other eye; form field shall be not less than 45 deg in all meridians from the point of fixation; ability to distinguish red, green, and yellow shall also be required."

*The British Standards Institution and Institute of Petroleum entertained delegates to ISO Technical Committee 28 at dinner at the Park Lane Hotel, London, June 23.*

# "...milestone on the road of progress"

*by* W. T. GUNN
*American Petroleum Institute; Secretary, ISO Technical Committee 28, Petroleum Products*

DELEGATIONS from the national standardizing bodies of Belgium, Denmark, France, India, Italy, Japan, the Netherlands, Sweden, United Kingdom, and the United States attended the meeting of Technical Committee 28, May 23 and 24. The meeting was at British Standards House, 2 Park Street, London.

L. C. Burroughs, Shell Oil Company, New York, was leader of the American delegation representing the American Standards Association. W. T. Gunn, American Petroleum Institute, attended the meeting as secretary of the committee. Other U.S. delegates were: E. L. Baldeschwieler, Esso Research and Engineering Company; E. S. Brown, California-Texas Oil Company, Ltd; H. W. Field, The Atlantic Refining Company; G. F. Hussey, Jr, Managing Director, American Standards Association; A. L. Lyman, California Research Corporation; K. G. Mackenzie, Consultant; A. E. Miller, Sinclair Refining Company; Norman Thompson, Sun Oil Company.

Technical Committee 28 has for its stated objective "the development of international agreement on standard methods for testing and measuring petroleum products."

"American technology can feel proud of the fact that all three of the proposals of the American Standards Association were unanimously accepted by those present at the meeting," Mr Burroughs commented after the meeting. "These proposals were that the ASTM motor and research methods for determination of octane number of motor fuels and the ASTM-IP Petroleum Measurement Tables be put forward for recognition as international recommendations. The American delegation was happy to have these proposals approved by the technical committee."

This meeting was a milestone on the road of progress. The producers and consumers of petroleum products in the United States all recognize the advantage of a uniform system of testing petroleum products. The producers and consumers in other countries also recognize this condition, but in most cases people in a given country tend to prefer the system that is "uniform" in their own country to the system that is "uniform" in another country.

This first step toward agreement on international recommendations, based as they are on three American Standards, is encouraging to those who have been engaged in this work. The committee adopted a program to attempt to find acceptable methods for determination of (1) flash point; (2) specific gravity; (3) density; (4) viscosity; and (5) tetraethyllead content of motor gasolines.

Some of the delegates gave the secretary of the committee a rough time with comments about the long period of time between meetings. The secretary replied by promising to call a meeting as often as there is justification for it. "If you will do your work and answer your correspondence from the secretary, you can reduce the intervals between meetings," he declared.

In response to a question about the next meeting, he stated: "If you do your work promptly, I will call a meeting in Paris (France) in 1957 —— no work, no meeting."

# SAFETY INTERNATIONAL

## Committee recommends world-wide use of Pin-Index system for medical gas cylinders

*by* F. R. FETHERSTON
*Secretary-Treasurer,*
*Compressed Gas Association*

Ohio Chemical & Surgical Equipment Co.

*Approved as American Standard, the Pin-Index System of connections for medical gas cylinders is now in wide use in military and civilian hospitals in the United States.*

THE American Standard system of pins and receptacles that make it impossible for the wrong gas cylinder to be attached to a medical gas dispensing machine has been recommended for international use. The recommendation was made at a meeting of Technical Committee 58, Gas Cylinders, of the International Organization for Standardization at a weeklong meeting at Stockholm, Sweden, June 10 to 16. The draft ISO Recommendation approved by the committee is being sent to the ISO Secretariat for submittal to all the members of the international organization for their vote. If approved by a majority of the Member-Bodies it will be submitted to the ISO Council for final approval as an ISO Recommendation. Purpose of the ISO Recommendation is to serve as a guide in bringing the national standards of all ISO members into agreement.

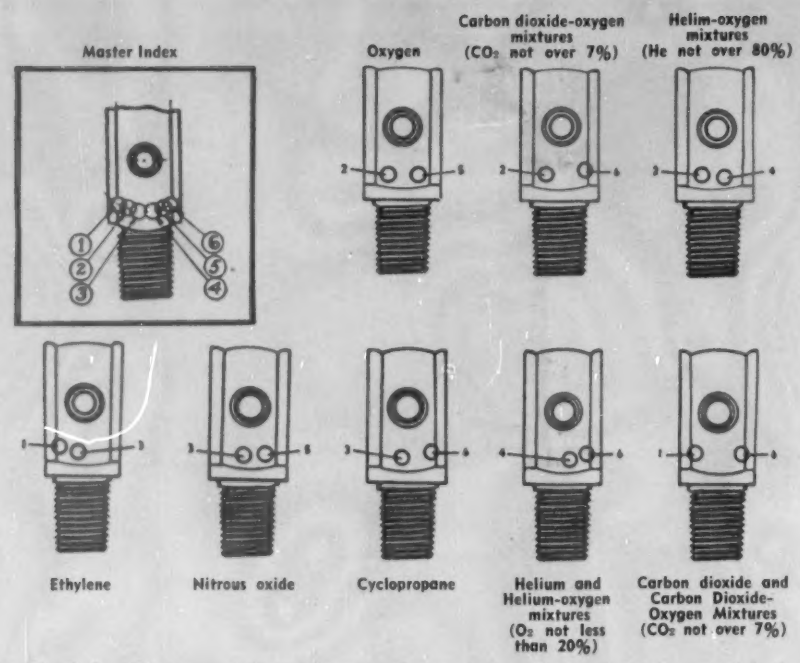
The method recommended by Technical Committee 58 provides for a special arrangement of recesses in the face of the valve for each type of medical gas. The yoke of the dispensing machine is provided with protruding pins in a similar design so that the cylinder can be attached only to the gas-dispensing machine at its proper location. This makes it impossible for a hurried operator or anaesthetist to attach a cylinder of ethylene to the oxygen cylinder connection, for example. The draft Recommendation submitted to the ISO General Secretary will incorporate equivalent metric dimensions.

The Pin-Index system, approved as American Standard in 1953, has been in use in the United States and Canada for several years. It is required by the Surgeon General of the Army for Army hospitals and is used in Veterans Hospitals as well as civilian hospitals. Doctors and dentists who own anaesthesia machines privately have been gradually converting their equipment to this standard. It was reported at the TC 58 meeting that the medical profession in the United Kingdom is in favor of it and a British Standard incorporating it is about to be published. Australia also sent word that it is publishing an Australian Standard containing the recommended connections.

An important advantage of the recommended system in the USA and Canada is that old-type machines can readily be changed over without returning them to the manufacturer. All flush type valves used in the USA and Canada for the cylinders involved have been drilled and the medical profession has experienced no difficulty in obtaining cylinders of gas with valves adapted to this system.

Belgium, Canada, Czechoslovakia, France, Germany, Italy, Japan, the Netherlands, Norway, Sweden, South Africa, USA, and the United Kingdom were represented at the TC 58 meeting, and there were observers present from Ireland, Finland, Mexico, and Rumania.

It is not often that one has the opportunity to express gratification on behalf of the public at a time when important decisions are made which vitally concern it. Speaking as a private citizen who felt keenly the importance of the action just taken by ISO/TC58 in recommending universal adoption of the Pin-Index Safety System, Dr Robert Forbes, secretary of the Medical Defence Union, London, England, stated that it may very well be the means for saving many lives in the future which otherwise might have been lost. On behalf of his associates in the medical profession, Dr Forbes also saw in the adoption of this safety principle a needed forward step in safety in the administration of gas anesthesia.




*The Pin Index System—as shown here, each type of medical gas has its special pin arrangement for attaching the cylinder to the gas-dispensing machine.*

In addition to the above action, a proposal for filling ratios for cylinders of light hydrocarbon gases was accepted by Technical Committee 58 as a draft for circulation to members of the committee. Although determined on a basis somewhat different from that used in the USA, the filling ratios proposed will be very similar to those required here. The recommendation was based upon data contained in Publication 2140, "NGAA LP-Gas Specifications and Test Methods" as published by the Natural Gas and Natural Gasoline Association of America. The draft adopted, proposed by the United Kingdom, provides a single table and set of figures for any mixture of hydrocarbon gases. It is based on 5 percent free space at 45 C. However, when unsaturated hydrocarbon content exceeds the limits given it will be necessary to determine the density at the assumed maximum working temperature. Under the USA method it is stated that the cylinder shall not be liquid-full at a temperature of 130 F (54 C). The filling ratio in this case, or filling density as it is called here, is equal to the specific gravity at 130 F. It was stated at the meeting that these two methods are only two different ways of saying the same thing.

The committee also decided to organize a new Subcommittee 3 to study design standards for compressed gas cylinders. The Netherlands will hold the secretariat. All interested countries are requested to transmit to the secretariat documents outlining the principles on which compressed gas cylinders are designed and constructed in their countries. In the USA, the specifications of the Interstate Commerce Commission are followed for all cylinders in interstate or foreign commerce. Industry organizations encourage the use of the ICC regulations and specifications within the states as a means of bringing about uniformity in the safety standards for compressed gas cylinders, their transportation, and their use. In other countries, however, practices differ and countries using compressed gas cylinders produced both in the USA and in other countries frequently adopt specifications that rule out the use of either one or the other type of cylinder.

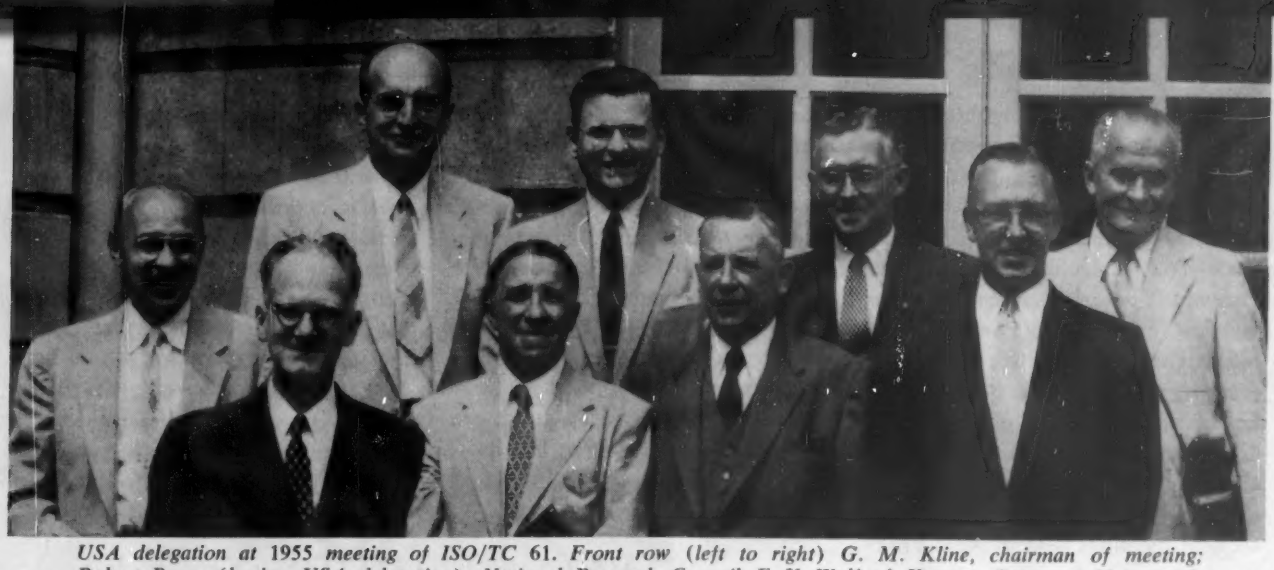
In addition to the Netherlands, which holds the secretariat of Subcommittee 3, representatives of Belgium, France, Germany, Italy, Norway, Sweden, USA, and the United Kingdom will be members. The subcommittee is being asked to determine the precise meaning of the terms used in cylinder design (except those within the province of Technical Committee 17, Steel). It is also to make recommendations as to whether work should be undertaken by the Technical Committee on factors of safety, relations between stress at working pressure, test pressure, filling pressure, and yield stress and tensile strength of the material. It is also asked to recommend whether the committee should take up questions of rough handling and corrosion; the types of materials to be used; cylinder dimensions; and other relevant factors.

Subcommittee 2, which has the responsibility for preparing international recommendations for valve connections, was authorized by the Technical Committee to analyze the problem of valve standards from the viewpoint of use, types, direction of threads, and characteristics of commodities, as well as the commodity uses. The subcommittee was asked to make this study and prepare a nondimensional plan in line with its findings before starting to develop standard dimensions for gas cylinders. Each country is asked to prepare a statement defining the principles that govern its selection of exit forms and sizes and to provide complete working details of its existing valve outlets. This is to be sent to the French standards association, which holds the secretariat for Subcommittee 2.

A Working Group, which was authorized by the committee in December 1950, was requested to prepare a draft ISO proposal for dissolved acetylene cylinder filling materials.

A survey showed that there were 32 different caps for gas cylinders and 50 neck rings. Subcommittee 2 was asked to prepare a draft ISO proposal in light of discussion at the meeting.

Chairman of the Stockholm meeting of Technical Committee 58 was Dr J. W. Jenkin, United Kingdom, which holds the secretariat for the committee. Representatives from the USA were F. R. Fetherston, Secretary-Treasurer, Compressed Gas Association, and H. F. Reinhard, Secretary, International Acetylene Association.



*USA delegation at 1955 meeting of ISO/TC 61. Front row (left to right) G. M. Kline, chairman of meeting; Robert Burns (leader, USA delegation), National Research Council; E. Y. Wolford, Koppers Company; Norman A. Skow, Synthane Corp. Back row: R. R. Winans, Materials Laboratory, New York Naval Shipyard; E. E. Ziegler, Dow Chemical Company; W. A. Franta, E. I. duPont de Nemours and Company, Inc.; C. Howard Adams, Monsanto Chemical Co.; Ralph K. Witt, Johns Hopkins University.*

# International Plastics Committee Considers Standard Tests

*by* G. M. KLINE
*Chief, Division of Organic and Fibrous Materials, National Bureau of Standards*

NOTABLE progress was made in the standardization of nomenclature and testing methods for use in international trade at the 1955 meeting of Technical Committee 61 on Plastics of the International Organization for Standardization. The meeting (the committee's fifth) was held in Paris at the Maison de la Chimie July 8-13.

Seventy-two delegates and experts representing the following countries were present: Belgium (3), Czechoslovakia (1), France (14), Germany (8), India (1), Italy (8), Netherlands (4), Sweden (9), Switzerland (5), United Kingdom (9), and United States (10). Dr G. M. Kline of the U.S. National Bureau of Standards presided as chairman with Jean Duval of the French Standards Organization (AFNOR) as co-chairman. N. A. Skow, representing the Society of Plastics Engineers as well as the Synthane Corporation, served as secretary, assisted by Mrs Charreyron of the Centre d'Etudes des Matieres Plastiques. J. W. McNair represented the American Standards Association, the secretariat of ISO/TC 61.

As the result of work done by eight Working Groups of the committee, ten draft proposals were approved for circulation to the participating (14) and observer (16) member countries of ISO/TC 61. These proposals dealt with a list of equivalent terms pertaining to plastics, in English and French, and with test methods for the determination of flexural properties of plastics, melt flow index of polyethylene, bulk factor of molding compounds, qualitative detection of free ammonia in phenolic moldings, amount of styrene in polystyrene, viscosity of polyvinyl chloride solutions, resistance of plastics to chemicals, volatility of plasticizers from plastics, and migration of plasticizers.

Four Draft ISO Proposals that had been reviewed by the ISO/TC 61 members prior to the meeting were approved for circulation by the ISO General Secretariat (Geneva) to all ISO member countries to be considered for advancement to the status of ISO Recommendations. These pertain to methods of test for methanol soluble matter of polystyrene, free phenols in phenolic moldings, quantitative determination of free ammonia in phenolic moldings, and boiling water absorption of plastics.

Five Draft ISO Recommendations have previously been sent to Geneva for distribution, dealing with the determination of percentage acetone-soluble matter in phenolic moldings, apparent density of molding materials that (1) can and (2) cannot be poured from a funnel; water absorption of plastics; and temperature of deflection under load (heat distortion temperature). Further action on these methods awaits the results of the international balloting.

Two new Working Groups met for the first time at the Paris meeting. These groups will deal with the preparation of test specimens (leader is Earl Ziegler, U.S., Dow Chemical Company) and electrical properties (leader is Mr Aeschlimann, Switzerland).

The committee voted to cooperate closely with Technical Committee 15 of the International Electrotechnical Commission in work on the development of international electrical tests for plastics. IEC/TC 15 was represented at the meeting by R. I. Martin of Great Britain. A similar resolution was adopted relative to cooperation with ISO Technical Committee 5, Subcommittee 6, in the preparation of international specifications for plastic pipes and fittings. ISO/TC 5/ SC 6 was represented at the meeting by D. J. Van Wijk (Netherlands) and L. D. Marlier (Belgium).

(*Continued on page* 315)

# World Unification

ABOUT six years ago the late George S. Case reported[1] at some length on the status of world unification of screw threads. His article, under the title "What Can Be Done Toward Unification of Screw Threads?", was written shortly after the first meeting, in Paris, of the ISO technical committee on screw threads, ISO/TC1. The initial meeting of the committee provided the first glimmerings of answers to Mr. Case's question which he very ably and objectively discussed. The subsequent meetings held in New York in 1952 and in Stockholm in June, 1955 provided a few more nearly completed answers and developed the trend of others. The writer, having served as a representative of the U.S. Member Body at the Stockholm and previous meetings of TC1, here undertakes to review briefly the work thus far accomplished by the committee.

In 1949 the committee adopted as its scope: "The establishment of series of internationally interchangeable screw threads covering the technical requirements in various fields of application with a minimum variety of basic profiles, pitches, and diameters."

The first accomplishment of the committee was the adoption of the "ISO Basic Profile" for ISO triangular screw threads, which is essentially the same as the Unified profile adopted earlier in the unification program of the inch-using countries[2]. At the same time drawings were approved showing the profile together with the maximum material conditions of the external and internal threads.

These and other standards are now set forth in Draft ISO Recommendation No. 84, Screw Threads, which has recently been forwarded to all ISO Member Bodies for comment. This document is designated ISO/TC1 (Secretariat 26) 75E, 1955.05. As a supporting document the Swedish Member Body, which is the secretariat of the committee, has prepared and issued ISO/TC1 (Secretariat 27) 76E, 1955.05, ISO/TC1 Screw Threads, Explanatory Report of the Secretariat on Draft ISO Recommendation No. 84. The latter is a review of work done by the committee and its working group and a compilation of the resolutions adopted, which form the basis of Recommendation No. 84.

Also included in No. 84 are four tables of basic dimensions, in both inch and millimeter units, of screw threads for screws, bolts, and nuts, as follows:

*Table 2.1G, Sizes recommended for general purposes and Table 2.1S, Sizes recommended for special purposes only.* The sizes included in these tables range from 0.01 to 0.039 inch (0.25 to 1 mm). In the Proposed American Standard, prepared by Subcommittee No. 4 of Sectional Committee B1, these same sizes and basic dimensions (omitting the 0.01 inch size) constitute a portion of the National Miniature (NM) Series. As inch-using countries have agreed on this series, it seems assured that it will truly constitute a world standard.

*Table 2.2G, Sizes recommended for general purposes, and Table 2.2S, Sizes recommended for special purposes only.* The range of these tables is from 0.043 to 0.197 inch (1.1 to 5 mm). Of this series the three smallest sizes are also included in the NM Series. The remainder of the series is in the range covered by the American Nos. 0 to 10 of the coarse and fine series.

Except as Draft Recommendation No. 84 may be modified by the committee on the basis of comments to be submitted by the various member bodies, it represents the first task to be completed by the committee.

Turning from the accomplishments of the committee to the work now in progress, we find that this is proceeding along three main lines. The first and most important from the American point of view is the formulation of a fine thread series of screw threads for commercial bolts and nuts in the diameter range 1/4 to 1 1/2 in. As the national standards for such threads of the various metric countries are not altogether in agreement on diameter-pitch combinations, there is an opportunity to include some of the inch sizes of the Unified fine series. At the recent Stockholm meeting, Working Group 2 was requested to continue its work on this series and to bear in mind the necessity of obtaining satisfactory interchangeability between the 1/4 and 5/16 in. UNF sizes and the 6.3 and 8 mm sizes, respectively. It is important, so far as possible, to avoid establishment of a fine thread series differing slightly, but significantly, from the UNF series with the result that bolts and nuts of the two series might not

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*Mr Fullmer, Chief, Engineering Metrology Section, National Bureau of Standards, has represented the Bureau on ASA Sectional Committee B1, Screw Threads, since 1946. He was USA representative at the Stockholm meeting of ISO Technical Committee 1 on Screw Threads, June 6-8, 1955.*

*Mr Fullmer was also a USA representative—one of five—at the first meeting of the committee in 1949. George S. Case, chairman of the Board, Lamson and Sessions Company, was chairman of the delegation. Indicating the importance the delegation placed on its work, his report pointed to a comment by Senator Ralph E. Flanders of Vermont, then chairman of ASA Committee B1: "The screw thread is a simple device, but it ties together the whole mechanical skeleton of our civilization."*

[1] *Standardization*, November, 1949, page 290.

[2] See American Standard Unified and American Screw Threads for Screws, Bolts, Nuts and Other Threaded Products, B1.1-1949.

be readily distinguishable and stocks might become mixed.

With regard to the coarse thread series, the committee recognizes that both the Unified Coarse thread series and the M (or Système International) series should continue to be used, but that this decision should be reconsidered at the next meeting of TC1. In the meantime, Working Group 3, which was set up at the Stockholm meeting, will have the task of revising ISA Bulletin 26. Essentially, this task is to apply the ISO Basic Profile to the M (Système International) series and to eliminate some of the sizes from the series.

Work on the development of tolerances was started relatively recently. The scope of TC1 was widened at the New York meeting in 1952 to include tolerances for screw threads dealt with by the committee. The scope of the work on tolerances was defined as follows in WG2 Resolution (11 Milan 1953): "(1) That the scope of the work on tolerances shall be the tolerances for screw threads made commercially in considerable quantities to meet ordinary industrial requirements; (2) That interference or stud fits should not be considered for the moment; (3) That the tolerances to be first investigated should be similar to the medium (Unified class 2) tolerances; (4) That coarse and fine tolerances (Unified classes 1 and 3) should not be dealt with for the moment; (5) That only the diameter range 1 to 6 mm should be considered at the moment, but that this should not preclude the consideration of tolerances for larger and smaller diameters at a later stage."

A subgroup of Working Group 2 has formulated a provisional recommendation on tolerances for the size range 0.054 to 0.176 in. (1.6 to 5 mm) which is available in the Secretariat's Report ISO/TC1 (Secretariat 29) 79E, 1955.01, pp 13-14. The following comments relevant to this provisional recommendation are quoted in and from the Secretariat's Report:

"Effective diameter tolerances are not given for threads of sizes smaller than 3 mm diameter, because it is recommended that for these sizes on the NOT GO side only the crest diameters ($D_1$ and d) be checked.

"NOT GO limits of the effective diameter ($D_2$ and $d_2$) of the nut and of the bolt are valid only if the checking is made with gages according to the American Standard B1.2-1951."

It is thus apparent that notable work has been done toward world unification of screw threads and that further work is proceeding along several different lines. There is an open opportunity for us in the United States to contribute further to the tasks of the Working Groups, which will next meet in Paris in April, 1956, and to foster the wider adoption of the excellent features of the Unified thread system.

# of Screw Threads

*by* I. H. FULLMER


*ISO Technical Committee 1 at its June meeting in Stockholm.*

*Mr Lamb is safety engineer of the American Standards Association and chairman of the New York Chapter of the American Society of Safety Engineers.*

*This article was published in the September-October issue of* Safety Standards.

# AMERICAN SAFETY STANDARDS *meet change*

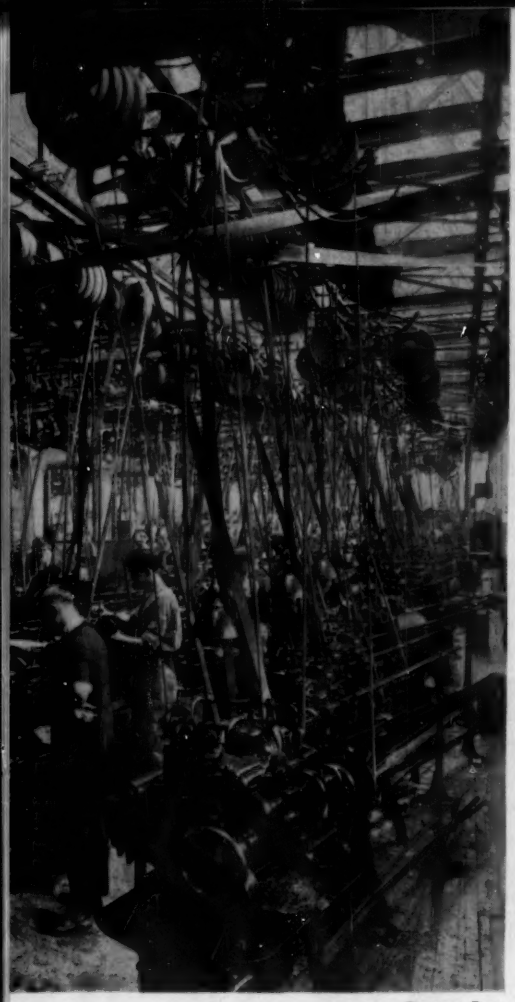
THE only thing that seems to be permanent in this country is change, whether it be of manufacturing methods, means of transportation, or even American Safety Standards. Machines and the methods that were used in 1920 are no longer adequate in 1955.

The development of safety standards under the procedures of what is now the American Standards Association was started in 1920. Like everything else, the standards which were approved in those days have now been either revised or replaced in order to keep up with modern developments.

Some people seem to think that American Standards are permanent and that once they have been established and agreed upon they never change. Such an idea is far from the truth. Perhaps the best way to express it is that an American Standard is only "The national agreement of the moment."

For instance, when the safety-code program was started, there was a great deal of interest in steam engines as a source of power, and in the mechanical power-transmission apparatus which conveyed motion from the steam engine to each individual machine in a factory. The American Standard Safety Code for Mechanical Power-Transmission Apparatus, including prime movers, was first approved in 1927. Today there are comparatively few reciprocating steam engines still used in industry. There are, of course, still many shafts, pulleys, belts, sprockets, chain drives, gears, and couplings. But they are not seen as often today because now they are usually completely enclosed. Even this document of long standing was revised in 1953 to include the more recent use of V-belts, and to improve the quality of guards required on other types of transmission apparatus.

After an American Standard has once been approved, the ASA by-laws provide for its review and for either revision or reaffirmation at least once in every 5 years. It should be emphasized that this is the maximum time limit and not the minimum. There have been several notable cases where American Standards have been approved, and then revised and reapproved, all within a single year. The American War Standards for Protective Occupational Footwear were an example of this. These were developed not only to provide protection to the toes of employees, but also to conserve critical materials during the Second



Brown Bros.

*When the American Standard Safety Code for Mechanical Power Transmission Apparatus was first approved in* 1927, *it was usual to see shafts, pulleys, and belts as shown in this old factory picture (left). Now, apparatus that conveys motion from engine to machine is more usually built into the machine and is completely enclosed (below). The standard, too, has been revised from time to time; the latest revision was approved in* 1953.

# with CHANGE

*by* HENRY G. LAMB

World War. Due to the changing availability of certain types of leather and other materials used in these shoes, five editions of some of these standards were approved within a 3-year period.

*Early Elevator Code Revised*

One of the original topics considered in 1920 was the safety of elevators and escalators. A sectional committee under the joint sponsorship of the American Institute of Architects, The American Society of Mechanical Engineers, and the National Bureau of Standards has been active almost continuously since the initiation of this program. In June of this year, a revision of the American Standard Safety Code for Elevators, Dumbwaiters, and Escalators was approved. This was the first complete general revision of the standard since 1937. During that time the use of traction-type elevators has increased; on the other hand, the old drum-type elevators have become less important, and now are re-

stricted by the standard to less important uses. This new edition also makes provisions for private-residence elevators and for the newer types of completely automatic push-button elevators.

One of the original purposes of the safety program in the American Standards Association was to attain uniformity among the regulations or requirements of the various State labor departments. It has always been a difficult task to determine just how much uniformity has been achieved. As a result of one of the early meetings of the President's Conference on Occupational Safety, the Bureau of Labor Standards was requested to make a survey of State requirements in order to determine the degree of uniformity which had been achieved. In accordance with this request, four surveys have been made which have been based upon the American Standard Safety Code for the Use, Care and Portection of Abrasive Wheels, B7.1; American Standard Safety Code for Power Presses and Foot and Hand Presses, B11.1; American Standard Safety Code for Mills and Calenders in the Rubber Industry, B28.1; and American Standard Safety Code for Woodworking Machinery, O1.1. There are still many minor variations among some of the States which in many cases are a result of the differences in the code-writing powers of the States. The surveys, nevertheless, showed a remarkable degree of uniformity now present among State requirements. These surveys would seem to indicate that any manufacturer of equipment who conforms with the safety requirements of these American Safety Standards should have no difficulty in meeting the safety requirements of the respective State labor departments anywhere in the United States.

The American Standards Association does not prescribe a rigid method for the presentation of safety material. In general, the technical requirements are published as a standard. In several cases, appendices of additional useful information, either stating the reasons for certain of the requirements in the standard or explaining how the standard requirements may be achieved, are included at the end of the standard. The actual details in each case rest with the sectional committees or groups concerned.

*"Why" Added to "How" in Codes*

An experiment is now taking place in regard to one of the most widely adopted and used American Safety Standards. This is the American Standard Safety Code for the Use, Care and Protection of Abrasive Wheels, B7.1. At the last meeting of the sectional committee which was considering a revision of this standard, a proposal was made that the material be set up in two columns on each page, that one column contain the requirements of the standard and that the adjoining column contain the appendix explanatory material concerning these requirements. It was hoped thereby to make the standard easier to use and to provide information on the "why" and "how" on the same page with the requirements.

One of the early projects of the safety program was a Safety Code for Mechanical Refrigeration. This standard has been brought up to date from time to time. In connection with the 1950 revision, an interpretations subcommittee was set up in order to handle any questions which might arise. Within a period of 3 years new refrigerants came upon the market, and there were sufficient other developments and changes in the industry that this standard was again revised and approved in 1953.

Practically all of the American Safety Standards are developed by sectional committees under ASA procedure. These committees include representation from all of the national organizations concerned with each subject. This includes manufacturers of the article in question, the employers who purchase this equipment, representatives from the employee groups who actually work at these machines, representation from governmental departments that have legal jurisdiction, from insurance companies that have to pay for injuries resulting out of the use of this equipment, and from independent experts who have technical knowledge in the particular field in question. It has been suggested that no individual manufacturing company, and probably not even any single department of the government, is in a position to assemble such an array of technical experts to work on a single problem. The American Standards that result from the activities of such a sectional committee include technical information that could not be purchased or obtained in any other way.

Even such a time-honored trade as woodworking has its changes and modernization. The American Standard Safety Code for Woodworking Machinery was revised last year to include more detailed requirements on portable electrical tools such as circular saws. It also included a completely new section on radial arm saws which are now becoming more popular. This revision also included a complete review and rewrite of the section on cooperage machinery.

*Materials Handling Code Revised*

One of the important problems in modern manufacturing has been the handling of materials. The subject of industrial power trucks became important about the time of the Second World War, and a safety code on this subject was developed and approved in 1950. Already there have been enough advances in the art, and additional information available, so that this standard was revised and reapproved in 1954.

Accident Statistics, Z16.1 is one of the most widely used American Safety Standards. Here again a committee on interpretations had been established at the time of the 1945 revision. This committee actually began work on a revision in 1947, but because of the wide differences of opinion it was not possible to reach an agreement and approve a revision of this standard until December 1954.

Method of Marking Portable Compressed Gas Containers to Identify the Material Contained, Z48.1 was revised in 1954. Whereas the general concept of marking com-

pressed gas cylinders has remained the same, the recent revision has included additional markings suggested for international trade.

Safety Color Code, Z53.1, a War Standard, was developed in 1945. This was revised in 1953 to include among other things the new color, purple, to designate radiation hazards.

The above is a discussion of standards whose revisions were approved within the last 2 years and represent definite modernization. There are also, of course, many sectional committees engaged on other revision work which has not as yet been completed.

*Radioactivity Standards Developed*

In addition to the revision of present American Safety Standards, there appears to be a continual demand for standards on new subjects. Already the scope of the Z54 project on industrial use of X-rays has been expanded to include safety standards in relation to radioactive materials. This is particularly important for the new radioactive static eliminators and beta-ray thickness gages, and unquestionably with the advances in this field there will sooner or later be a need for safety standards in connection with nuclear energy powerplants.

In the past there have been projects on ventilation which were concerned with taking air contaminants out of the plant. Now, because of the newer problem of air pollution with regard to the general atmosphere, additional work is being started on effluent air and gas cleaning equipment.

The ASA safety program is not limited to industrial operations or plant employees. Several American Standards deal with safety on the highway, and recently a request has been received for the development of specifications for automobile seat safety belts. This will not only affect the public, but may also affect many industrial operations where there are large fleets of passenger cars, trucks, and busses.

Even such familiar things as the octagonal stop sign at the entrance of through highways is subject to change. Whereas the previous standards specified that this should be black lettering on a yellow background, the recent revision of D6.1–1955 now calls for this sign to be white lettering on a red reflectorized background.

The procedures of the ASA are now being used in the field of home safety. The new project on Hazards to Children has been initiated, and the first standard has been approved under the title, "American Standard Specifications to Minimize Hazards to Children from Residual Surface Coating Materials."

There always seem to be more suggestions and more requests for the development of safety standards than there are technical personnel available to work on the sectional committees. This is particularly true as it concerns money and personnel available in sponsoring organizations to take the necessary leadership and see that the work is carried forward. Most assuredly, if additional services were available, the Safety Standards Board would be able to plan a much broader program which would provide additional helpful information to all of those concerned with the prevention of injuries to employees and their fellow human beings.

# FROM OTHER COUNTRIES

*Members of the American Standards Association may borrow from the ASA Library copies of any of the following standards recently received from other countries. Orders may also be sent to the country of origin through the ASA office. Titles are given here in English, but documents are in the language of the country from which they were received. An asterisk * indicates that the standard is available in English as well. For the convenience of readers, the standards are listed under their general UDC classifications. In ordering please refer to the number following the title.*

### 025 LIBRARY ADMINISTRATION

***Spain (IRATRA)***

Spanish Edition of Section O—Generalities — UNE 50002

### 542.1 CHEMICAL LABORATORY EQUIPMENT

***Germany (DNA)***

Ground glass taper joints — DIN 12249
Stand's shafts — DIN 12893

### 614.8 PREVENTION OF ACCIDENTS SAFETY MEASURES

***Rumania (CSS)***

Portable fire ladders — STAS 4533/4-54
Hydrant location sign — STAS 4554-54

***United Kingdom (BSI)***

Respirators for agricultural workers using toxic chemicals — 2617:1955

### 615.478 HOSPITAL EQUIPMENT

***Poland (PKN)***

23 stds for different medical instruments — PN Z series 54...

11 stds for different medical instruments concerning pneumothorax operations — PN Z 53120-130

3 stds for hospital furniture — PN Z 78124, -127, -151

4 stds for clothing for patients in mental hospitals — PN Z 77300-303

5 stds for different dressing and dressing materials — PN Z 85006, -028, -040, -055, -061, -075

***United Kingdom (BSI)***

Medical gas cylinders and anesthetic apparatus — 1319:1955

### 621.1 STEAM ENGINES. BOILERS

***Germany (DNA)***

Flange-type reduction and union bushings for soldering or screwing pipes — DIN 31490/1
Whitworth thread-type reduction and union bushings for soldering or screwing pipes — DIN 31268, 31274
Nippel, Whitworth thread — DIN 31276
Screwed fittings used in locomotive construction, general survey — DIN 30320, Bl.3
Whitworth screw thread; sizes used in locomotive construction — DIN 30284
Square studs and holes for them — DIN 30103

***Rumania (CSS)***

Cast iron sleeve for railway locomotive cylinders — STAS 3426-54
Special hexagon nuts for railway locomotives — STAS 4061-53
Rules for calculation of steam boiler heads — STAS 4145-53

Water-draining cock for locomotive tender STAS 4413-54
Locomotive boilers. Terminology STAS 4453-54

***USSR (GOST)***

Superheater of railroad locomotives operating on main truck lines GOST 431

## 621.3 ELECTRICAL ENGINEERING

***Bulgaria (BDS)***

Insulating tape, rubberized BDS 1696-54
3 stds for insulated wire and cord for buzzer BDS 1703, 1705/6-54
Household electric appliances: boiler, coffee-pot, iron, hot plate; (bound together) BDS 63, 1731/2, 1737/8-54
Rules for grinding of transformers BDS 414-54
Steel doors for transformer post up to 20 kv BDS 1557-53
Ventilation grating for transformer post up to 20 kv BDS 1562-53
Steel mounting bracket for transformer post up to 20 kv BDS 1592-53
2 stds for storage batteries BDS 1545/6-53
Switchboard for transformer post up to 500 v BDS 1156-52
Cabin for 20 kv transformer BDS 1555-53
Incandescent lamps BDS 1786-54

***France (AFNOR)***

Insulated wires and cables, general NF C 32-010/1
14 stds for wires and cables, rubber insulated, metal or fabric sheathed for power wiring NF series C 32...
Multi-wire rubber insulated fabric or plastic sheathed cable for use in elevators NF C 32-191
3 stds for polyvinyl chloride sheathing protected cables NF C 32-200, 202/3
Power circuit breakers NF C 62-400/1

***Germany (DNA)***

Fuse boxes for street lighting system up to 25 amp and 500 v DIN 43628
Temperature indicator with flexible filling tube for switchgears DIN 43640
2 stds for lightning arrester conductor ferrules DIN 48802, 48805
Fluorescent lamps DIN 49862
Inductive and non-compensated ballasts 220v 50 cycles for fluorescent lamps DIN 49865, Bl.2
2 gages types B and C for fluorescent lamp sockets DIN 49655
Hands for electric clocks DIN 41092, Bl.1-5
Electrolytic capacitors, polarized DIN 41329

***Poland (PKN)***

Symbols for designation of N° and disposition of electrical locomotive axles PN E 01120
Copper for collector segments of electrical machines PN E 11100
Guard ferrule for overhead line PN E 92407
Nominal values of resistors PN T 02050
Nominal values of voltages PN E 02000
Nominal values of capacitors PN T 02001
Taper shaft ends of electric machines PN E 80402
Shaft ends of radio tuning knobs PN T 84000
Concrete reinforcing stansions for wooden poles PN E 92000

***Rumania (CSS)***

Clamps for overhead power traction lines STAS 680-54
Build-up wooden pole for overhead lines STAS 688, 4476
Safety rules for prevention of accidental electrocution STAS 2612-54
Weather-proof rubber-insulated electric wire STAS 4379-54
Insulating flexible tubing STAS 4409-54
Terminal lead sleeve for three-wire lead sheathed cable STAS 4411-54
AC circuit breakers 500v 600a STAS 4479-54
Automatic air- and oil-circuit breakers, three-pole, 1 kv 1000a STAS 4480-54
Steel telecommunication wires, insulated STAS 4484-54
Bronze telecommunication wire STAS 4537-54

***United Kingdom (BSI)***

Electricity meters: part 5: polyphase kilowatt maximum demand meters 37:part 5:1955
D.C. control equipment for electrical traction 2618:1955
Wrought aluminum for electrical purposes: wire 2627:1955

***USSR (GOST)***

Textile-plastic pressboards GOST 2910
Incandescent lamps for 12 v and 36 v GOST 1182
Rubber insulated copper wires GOST 1977
Incandescent lamps for general industrial and domestic use for 110 v, 127 v, and 220 v GOST 2239
Electronic tubes. Methods of electrical tests GOST 7046
Insulating compound for cable junction boxes GOST 6997
Cables for electrical filters GOST 6925
Plug-in signal lamps for telephone switchboards GOST 6940
Resistance coils up to 100,000 ohm GOST 6864
Local telephone switchboards up to 30 lines GOST 6866
Telephone jacks, 2 and 3 wire types GOST 6865
Resistance boxes GOST 7003
Heat-resisting copper winding wire GOST 7019
Single-phase arc-welding transformers GOST 7012
Nominal voltages for industrial electrical appliances GOST 6827
Mercury vapour lamps GOST 6825
Cylindrical incandescent lamps GOST 5011
15 stds (bound together) for different fittings for overhead power lines GOST 1232, -2724/32, -2735/6, -2743/4, -6490
Laminated plastic insulating material "Hetinax" GOST 2718

## 621.643 PIPES AND ACCESSORY PARTS

***Bulgaria (BDS)***

Cast iron expansion pipes BDS 1740-54
Spigots and bell cast iron pipes BDS 1770-54

***Rumania (CSS)***

Reduction fitting, flanged, for cast iron pressure pipes STAS 1879-53
Cast iron flanged elbow STAS 3959-53
Cast iron valves for ammonium STAS 4486/7-54

## 621.798 PACKING AND DISPATCH EQUIPMENT

***United Kingdom (BSI)***

Tins for printing inks 2620:1955

***Rumania (CSS)***

Radial roller bearings STAS 4463/4-54

***Spain (IRATRA)***

4 stds for journal bearings, bearing shell and parts UNE 18030, -1834/6

***USSR (GOST)***

Common thrust ball bearings GOST 6874

## 621.88 MEANS OF ATTACHMENT

***Bulgaria (BDS)***

Spring washers BDS 833-54
Screwdrivers BDS 1788-54
4 stds for automobile and tractor bolts BDS 1801/4-54

***Germany (DNA)***

Rivets, tubular, used for brake-linings DIN 7338

***Rumania (CSS)***

Special types of capnuts STAS 4374-54
Square-head machine screw with dog-point STAS 4461-54

## 621.89 LUBRICATION

***Bulgaria (BDS)***

Oil cups BDS 1639-54
Greasing nipple BDS 1640-54

## 621.9 MACHINE TOOLS

***Bulgaria (BDS)***

7 stds for drills (bound together) BDS 975/81-52
Different sizes of command hand wheels BDS 1603-54

***Germany (DNA)***

Plug bushes and stop screws DIN 173
Hub-borers for wood DIN 7489

***Rumania (CSS)***

Different types of wood saw blades STAS 1070-54
Plain milling cutters STAS 4460-54
Twist drills for automatic drill press STAS 4566-54

***Spain (IRATRA)***

Carpenters' adze UNE 41057
Gimlets UNE 41059
Combination adze and hammer UNE 41064
Cutting nippers UNE 41065

## 622 MINING

***Bulgaria (BDS)***

Mining electric conductors BDS 1730-54

***Germany (DNA)***

Steel filter pipes for drilled wells DIN 4922
Journal box of mining surface-rolling stock DIN 22609, Bl.2
Brake shoe of mining surface-rolling stock DIN 22616, Bl.4

***Poland (PKN)***

21 stds for medium-sized wagons and accessories for underground mining railways PN G-46031-052

***Rumania (CSS)***

Miner's pick STAS 246-54
Side-tip ore wagon STAS 1938-54
Cementation shoe for drill rods STAS 79-54
Square drilling rod STAS 4344-54

## 624 CIVIL ENGINEERING

***Germany (DNA)***

General layout of inside wiring in dwellings DIN 18015, Bl.1, 2

Calculation of admissible vertical load upon the ground DIN 4019, Bl.1
Sounding, drilling and sampling of the ground DIN 4021

***Rumania (CSS)***

Modular door and window openings STAS 4582-54

### 625.2 RAILWAY AND ROLLING STOCK

***Germany (DNA)***

Tripping valve of air-brake line DIN 39169

### 625.7 ROAD CONSTRUCTION

***Bulgaria (BDS)***

Curbstones BDS 1829-54

### 628.2 SEWERS

***Bulgaria (BDS)***

Sewer street grates, cast iron BDS 1747-54

***Germany (DNA)***

5 types of sewer manhole covers DIN 4290/2

### 628.9 ILLUMINATION

***Germany (DNA)***

Light, lamps and lighting appliances, general DIN 5039
Rules for street illumination DIN 5044

### 629.113 MOTOR VEHICLES

***Germany (DNA)***

Pneumatic tires for station wagons DIN 7804
Round screwthread used in motor car construction DIN 70156
Piping for hydraulic brakes DIN 74234
Clearance required for tractor driving wheel DIN 9615

***Spain (IRATRA)***

Oval pipe flanges, two-bolt type UNE 26083

### 629.12 SHIPS AND SHIPBUILDING

***Germany (DNA)***

Wrought- or cast-iron hand wheels for pipe valves DIN 87302
12 stds for different electrical appliances on shipboard DIN 89510/12, Bl.1-6, 80514/5, 89518/9
Screwed pipe fittings for ships DIN 86102
25° taper pipe unions for ships DIN 86140, Bl.1
9 stds for remote control hand-command parts DIN 87345, Bl.2, 87353/7, Bl.1, 2
Non-ferrous cocks used in ships and their details DIN 87003, Bl.1-4

***Poland (PKN)***

Hook poles for life-saving boats PN W-46603

### 629.13 AERONAUTICS. AIRCRAFT ENGINEERING

***France (AFNOR)***

9 stds in the field of aeronautics:
Instrument shaft fork-end connectors NF L 34-110
Instrument shaft square-end connectors NF L 34-112
Adaptor for fork-end connector on square-end shaft NF L 34-114
Flexible shaft drive NF L 34-430
Command wire cable in flexible sheath NF L 36-310
Spark plugs, screened NF L 86-350
Ignition cable ends, screened NF L 86-360
Starter coupling, motor-shaft end NF L 86-510
Protective sleeve for ignition cable end NF L 93-810

***Spain (IRATRA)***

Two types of testing wood used in aircraft constructions UNE 28012, h. 7 and 8

### 637.135 MILK TRANSPORT. BOTTLES, CANS

***United Kingdom (BSI)***

Crates for 1-pint and 1-quart milk bottles 2611:1955
Milk can washing machines 2616:1955

### 662.75 LIQUID FUELS

***Spain (IRATRA)***

Characteristics of liquid fuels required for boiler projects UNE 9008

### 664 PREPARATION AND PRESERVATION OF SOLID FOODSTUFFS

***Bulgaria (BDS)***

Method of evaluating sterilization of fish preserves BDS 1719-54
Method of evaluating sterilization of meat preserves BDS 1720-54
Fish preserves in tomato juice BDS 1881-54

### 665.45 ASPHALT INDUSTRY

***Spain (IRATRA)***

Determination of phenol contents in tar used for road building UNE 7086

### 666 GLASS AND CERAMIC INDUSTRY

***Spain (IRATRA)***

Determination of density of dry aggregates in concrete and mortars UNE 7088

### 667.6/.8 PAINTS. VARNISHES, LACQUER

***Bulgaria (BDS)***

Nitrocellulose for manufacturing lacquer BDS 1525-53

***USSR (GOST)***

Test methods of paints and lacquers: Determination of solvent content GOST 6989
Perchlorovinyl enamels GOST 6993
Organic dyestuff, blue K GOST 6060

### 669 METALLURGY

***Bulgaria (BDS)***

3 stds for copper and brass sheets and rods BDS 1711/13-54
4 stds for copper and bronze tubes and rods (bound together) BDS 1772/3, BD 1784/5, -54

***Poland (PKN)***

Castings, steel, iron, etc. PN H-83104/5, -151, -154/5, -215/6, 83235
Seamless steel pipes PN H-74220
3 stds for aluminum and aluminum alloy ingots and bars PN H-82162, -93665, -93663
Chemical analysis of nickel alloys PN H-04823
Classification of nickel alloys PN H-87045
Zinc bands, rolled PN H-92901
2 stds for carbon steel rolled shapes PN H-84025, -93432
Special carbon steel channels for mining purposes PN H-93413
Steel for construction purposes PN H-84021
Cold drawn steel rounds PN H-93213
Cold drawn wire PN M-80005

***Spain (IRATRA)***

Rolled steel plate, special quality UNE 36626/7
Cold-rolled sheets and bands of different grade of copper alloy "Custan" UNE 37106

***USSR (GOST)***

Test methods for determination of component elements of various grades of bronze GOST 1953
Fine sheet of alloy steel GOST 1542
Gold foil GOST 6902
Silver foil GOST 6903
Copper-zinc alloys, chemical analysis of GOST 1652
Silver and silver-copper alloys GOST 6836
Stainless bands GOST 4886
Ferrotitanium GOST 4761
Gold and its alloys, marking GOST 6835

### 674 WOOD INDUSTRY

***USSR (GOST)***

Wooden mouldings GOST 6857
Surface finish of wooden articles GOST 7016
Prefabricated boards for cabinet work GOST 5204

### 675 LEATHER INDUSTRY

***Poland (PKN)***

2 stds for classification of leather PN P-22214/5
Methods of physical tests of leather PN P-22210

***USSR (GOST)***

Rubber sheathing of metal rollers used in leather industry GOST 7036

### 676 PAPER INDUSTRY

***Poland (PKN)***

2 stds for sizing of paper PN P-04009/10
2 stds for pulp PN D-95003/4
Newsprint PN P-95002
Testing of paper PN P-04012

***USSR (GOST)***

Pressboards GOST 6983
Writing paper, colored stock GOST 6861

### 677 TEXTILE INDUSTRY

***United Kingdom (BSI)***

Warp-knitted fabrics (rayon or acetate) for underwear and nightwear 2615:1955

***USSR (GOST)***

Stockings and socks: sizes and technical specifications GOST 6013
Laces GOST 6462
Men's and children's knitted sweaters GOST 821
Knitted mittens and gloves GOST 1108
Silk fabrics GOST 7053
Piece goods or mixed wool material GOST 6985/6
Pure wool piecegoods, technical GOST 6984
Coarse woolen fabric for overcoats GOST 6974
Knitted women's and children's shirts GOST 6894

# NEWS BRIEFS.....

• Preferred Standards for the Presentation of Frequency Response Data is the title of ASME Standard 107 published by the American Society of Mechanical Engineers recently. The standard was recommended by the Dynamic Systems Committee of the Instruments and Regulators Division of the Society. The method of presenting frequency response information applies to all physical systems where the relation between the outputs and inputs of these systems is of concern, as well as to the entire field of automatic control.

• The American Society of Mechanical Engineers, as sponsor for projects in the mechanical field, was asked by the Mechanical Standards Board to look into the problem of terminology. Specifically, ASME was asked to investigate the possibility of setting up some means of compiling and reconciling differences in terminology in the mechanical field.

• For the medical field, a new American Standard covering all types of x-ray film used in hospital and medical laboratories has just been published. The document gives dimensions for inch and centimeter sizes of cassettes for both chemical x-ray intensifying screens and medical x-ray sheet film.

Another American Standard on dimensions of Luer tapers for medical use has just been approved. This project was requested by the American Red Cross to insure interchangeability of syringes and needles.

• New York State Division of Safety has promulgated regulations for standardizing fire hose equipment, according to an announcement in the magazine *Fireman*. The move will mean the use of interchangeable hose couplings among the fire departments of towns in close proximity in accordance with the American Standard Threads for Fire Hose Couplings. At present, five New York counties have adopted the standard in their mutual aid plan.

• Hotel cleaning and maintenance equipment standards have been requested by the American Hotel Association. The organization represents 6,000 member hotels. It has asked for American Standards because they are "a practical way to judge the performance and relative worth of these products in order to satisfactorily serve our members' inquiries.... We believe that it should be carried out on a much larger scale than we, as a single consumer group, can carry alone.... We believe that it is both essential and possible to bring together the manufacturers, suppliers, and consumers of cleaning materials for the purpose of developing mutually satisfactorily voluntary standards based, wherever possible, on product performance."

• The recently revised American Standard on Dry Cells and Batteries, C18.1-1954 (MAG OF STDS, May 1955, page 133) has already been widely distributed throughout the world. The National Carbon Company and the Union Carbide International Company, Divisions of Union Carbide and Carbon Corporation, report distribution of copies to twenty dry battery manufacturing plants in the United States and associated plants scattered throughout the world. Copies of the standard are also supplied as a supplement to the Company's Battery Engineering Data Book. These books have a distribution of approximately 2,000 copies including manufacturers of electrical and electronic equipment, as well as laboratories of schools, universities, research and consulting organizations. The company thus hopes to encourage designers of battery-using devices to build their products in compliance with the battery standards.

• The first standards in a series that will give industry test methods and requirements for checking the performance of water-cooling towers have been announced by the Cooling Tower Institute. The standards now available are:

Acceptance Test Procedure for Water-Cooling Towers, ATP-105

Recommended procedures, including instrumentation, for determining the water-cooling capability of mechanical draft cooling towers.

CTI Grades of Redwood Lumber, STD-101

Recommended specifications for selection of grades of redwood lumber for structural design of industrial cooling towers.

Structural Design Data, STD-102 (for use with CTI bulletin STD-101)

Allowable design stresses for structural design of redwood cooling towers.

Cooling Tower Wood Maintenance, TSC-302 (published in 1953)

Of the 80 billion gallons of water per day needed by industry in 1950, according to one estimate 40 percent of the total circulation was used for cooling. Continual expansion of industry will bring a proportionate increase in the industrial need for process cooling water, the Cooling Tower Institute, estimates. To minimize water requirements, cooling towers are widely used by heavy industry.

The Cooling Tower Institute was organized in 1950 by the tower manufacturers. Its purpose is "advancement in technology, design, and performance of industrial water-

cooling towers." A number of committees are responsible for carrying out this purpose. They include committees on acceptance test procedure, performance, wood maintenance, water conservation, engineering standards, business practices, technology, and the CTI Code Tower committee. This latter committee consolidates the work of the other technical committees and is correlating their recommendations into a composite document "Standard Specifications for CTI Code Tower." The standards listed above are part of this composite document.

*Copies of the standards can be obtained from the Cooling Tower Institute, 444 Emerson Street, Palo Alto, California at the following prices: ATP-105, 50 cents; STD-101, 25 cents; STD-102, 25 cents; TSC-302, 50 cents. Quantity prices are available on request.*

• During 1954, Deutscher Normenausschuss, the German standards association, issued 436 new standards, bringing the total of German Standards to 7,996. This was reported in the July 1955 issue of *DNA Mitteilungen,* the German standards magazine. Sales of German standards are constantly growing, the magazine reports. In 1954 DNA sold and distributed free of charge nearly 1½ million copies of German Standards and draft standards, with a return of 164,000 German marks (about $40,000 in American money). The staff of DNA numbers 113, with 81 working at Berlin headquarters; 24 working at DNA's Western Branch in Koln; and 8 employed in the East Berlin Branch.

• Some 290 standards issued during 1954 were received from the USSR in July. These standards are not only effective in Russia itself but also are used as models, adopted verbatim, or adopted with minor modifications in the countries within Russia's sphere of influence. They cover a wide range of subjects from engineering, optical equipment, food products, tobacco, and items of clothing to safety razors and sewing needles. A recent issue of the Polish magazine *Wiadomosci PKN* refers to a statement by W. Tkachenko, representative of the Office of the Soviet Standards Committee, indicating that the average number of standards published annually by the USSR is in the neighborhood of 600.

(*Continued from Page* 305)

Technical Committee 61 also voted to revise its scope to include specifications as well as nomenclature and test methods. This action must be approved by the ISO Council.

The delegates and their wives were graciously entertained during the conference by Le Syndicat des Fabricants de Matières Plastiques, Le Centre d'Etude des Matières Plastiques, L'Association Francaise de Normalisation, and the Saint Gobain Co. A reception was held on the opening day at L'Hotel de Ville (Town Hall), at which the Deputy-Mayor welcomed the delegates to Paris. A banquet at the Pavillon Dauphine on the evening of July 12 was addressed by Professor Léon Jacque, President of the Centre d'Etude des Matières Plastiques, and by Dr G. M. Kline. Other features of the program included a luncheon at the Maison des Polytechniciens, a tour of the Research Center of the Saint Gobain Co., and a trip to Fontainebleau for the ladies.

D. J. van Wijk, on behalf of the Hoofdcommissie voor de Normalisatie in Nederland, invited ISO/TC 61 to meet in the Netherlands in September, 1956, probably in Scheveningen.

# AMERICAN STANDARDS

## Status as of September 19, 1955

### Legend

*Standards Council*—Approval of Standards Council is final approval as American Standard; usually requires 4 weeks.

*Board of Review*—Acts for Standards Council and gives final approval as American Standard; action usually requires 2 weeks.

*Standard Boards*—Approve standards to send to Standards Council or Board of Review for final action; approval by standards boards usually takes 4 weeks.

### Building

***In Board of Review—***

Building Code Requirements for Minimum Design Loads in Buildings and Other Structures, A58.1 (Revision of A58.1-1945)
*Sponsor:* National Bureau of Standards

***In Standards Board—***

Gypsum Lath, Specifications for, ASTM C37-50; ASA A67.1 (Revision of ASTM C37-50; ASA A67.1-1951)

Gypsum Sheathing Board, Specifications for, ASTM C79-52; ASA A68.1 (Revision of ASTM C79-52; ASA A68.1-1953)

Testing Gypsum and Gypsum Products, Methods of, ASTM C26-52; ASA A70.1 (Revision of ASTM C26-52; ASA A70.1-1953)
*Sponsor:* American Society for Testing Materials

Support, Anchorage, and Protection of Exterior Marble Veneer 2 Inches and Less in Thickness, Specifications for, A94.2

Exterior Marble Used in Curtain Walls, Specifications for, A94.3
*Sponsor:* Marble Institute of America

Gypsum Partition Tile or Block, Specifications for, ASTM C52-41; ASA A105.1 (Revision of ASTM C52-41; ASA A105.1-1954)
*Sponsor:* American Society for Testing Materials

***Standard Submitted—***

Standard Types of Building Construction, NFPA 220; ASA A110.1
*Sponsor:* National Fire Protection Association

### Consumer Goods

***American Standard Published—***

Home Freezers, Method of Rating and Testing, B38.3-1955 (ASRE-13; NEMA FH 1-1955), $0.50
*Sponsors:* American Society of Refrigerating Engineers; Home Economics Research Branch, Agricultural Research Service, U.S. Department of Agriculture

***New Project Requested—***

Performance Requirements for Cleaning Supplies
*Requested by:* American Hotel Association

***American Standards Approved—***

Terms for Radio Aids to Navigation, Definitions of, C16.26-1955

*Sponsor:* Institute of Radio Engineers

Dimensions and Electrical Characteristics of 20-Watt T-12 Preheat Start Fluorescent Lamp, C78.406-1955 (Revision of C78.406-1951)

Dimensional and Electrical Characteristics of 96-inch T-12 Instant Start Single-Pin Hot-Cathode Fluorescent Lamp, C78.810-1955 (Revision of C78.810-1951)

Dimensional and Electrical Characteristics of 100-Watt T-17 Pre-Heat Start Fluorescent Lamp, C78.410-1955 (Revision of C78.410-1951)

Dimensional and Electrical Characteristics of 90-Watt T-17 Preheat Start Fluorescent Lamp, C78.411-1955

Dimensional and Electrical Characteristics of 40-Watt T-12 Instant Start Fluorescent Lamp, C78.600-1955 (Revision of C78.611-1951)

Dimensional and Electrical Characteristics of 48-inch T-12 Instant Start Single-Pin Hot-Cathode Fluorescent Lamp, C78.808-1955 (Revision of C78.808-1951)

*Sponsor:* Electrical Standards Board

Ceramic Dielectric Capacitors (for Normal Commercial Applications in Noncritical Environments), C83.4-1955; RETMA REC-107-A

Fixed Wire Wound Resistors (Low Power in Non-Metallic Cases) (for Normal Commercial Applications in Noncritical Environments), C83.6-1955; RETMA REC-117

Variable Control Resistors (Standard Tapers, Definitions, Shafts and Mountings) (for Normal Commercial Applications in Noncritical Environments), C83.7-1955; RETMA REC-121-B

Forms, Dimensions and Ratings for Panel Lamps (for Normal Commercial Applications in Noncritical Environments), C83.8-1955; RETMA REC-137

*Sponsor:* Radio-Electronics-Television Manufacturers Association

***In Board of Review—***

Synchronous Generators, Synchronous Motors, and Synchronous Machines in General, C50.1 (Partial revision of C50-1943)

Alternating-Current Induction Motors, Induction Machines in General and Universal Motors, C50.2 (Partial revision of C50-1943)

Direct-Current Generators, Direct-Current Motors, and Direct-Current Commutating Machines in General, C50.4 (Partial revision of C50-1943)

Rotating Exciters for Synchronous Machines, C50.5 (Partial revision of C50-1943)

Motor-Generator Sets, C50.6 (Partial revision of C50-1943)

Dimensions for Motors and Generators, C50.8 (Partial revision of C50-1943)
*Sponsor:* Electrical Standards Board

Testing Molded Materials Used for Electrical Insulation, Methods of, ASTM D48-54T; ASA C59.1 (Revision of ASTM D48-52T; ASA C59.1-1954)

Testing Electrical Insulating Oils, Method of, ASTM D117-54T; ASA C59.2 (Revision of ASTM D117-43; ASA C59.2-1944)

Test for Insulation Resistance of Electrical Insulating Materials, Method of, ASTM D257-54T; ASA C59.3 (Revision of ASTM D257-52T; ASA C59.3-1954)

Testing for Impact Resistance of Plastics and Electrical Insulating Materials, Methods of, ASTM D256-54T; ASA C59.11 (Revision of ASTM D256-47T; ASA C59.11-1948, R1954)

Conditioning Plastics and Electrical Insulating Materials for Testing, Methods of, ASTM D618-54; ASA C59.28
*Sponsor:* American Society for Testing Materials

IES Guide for Electrical Measurements of Fluorescent Lamps, C78.375

Dimensional and Electrical Characteristics of 72-Inch T-12 Instant-Start Single-Pin Hot-Cathode Fluorescent Lamp, C78.809 (Revision of C78.809-1951)
*Sponsor:* Electrical Standards Board

Design, Construction and Operation of Class HI (High Impact) Shock Testing Machine for Lightweight Equipment, Specification for, Z24.17
*Sponsor:* Acoustical Society of America

***In Standards Board—***

Soft or Annealed Copper Wire, Specifications for, ASTM B3-53T; ASA C7.1 (Revision of ASTM B3-53T; ASA C7.1-1953)
*Sponsor:* American Society for Testing Materials

Terms for Audio Techniques, Definitions of, C16.24; 54 IRE 3.S1

Television Signal Measurement Terms, Definitions of, C16.27; 55 IRE 23.S1
*Sponsor:* Institute of Radio Engineers

Electric Railway Control Apparatus, C48 (Revision of C48-1931)
*Sponsor:* American Institute of Electrical Engineers

Terms of Electron Tubes, Definitions of, C60.9

Terms of Magnetrons, Definitions of, C60.10

Terms of Gas-Filled Radiation Counter Tubes, Definitions of, C60.12
*Sponsor:* Joint Electron Tube Engineering Council

***Standard Withdrawn—***

Dimensional and Electrical Characteristics of 85-Watt T-17 Pre-Heat Start Fluorescent Lamp, C78.409-1951
*Requested by:* Electrical Standards Board

## Graphic

***In Board of Review—***

Graphical Symbols for Plumbing, Y32.4 (Revision of Z32.2.2-1949)
*Sponsors:* American Institute of Electrical Engineers; American Society of Mechanical Engineers

***In Standards Board—***

Letter Symbols for Chemical Engineering, Y10.12 (Revision of Z10.12-1946)
*Sponsor:* American Society of Mechanical Engineers

## Materials and Testing

***In Board of Review—***

Nickel Seamless Pipe and Tubing, Specifications for, ASTM B161-49T; ASA H34.1

Nickel-Copper Alloy Seamless Pipe and Tubing, Specifications for, ASTM B165-49T; ASA H34.2

Nickel-Chromium-Iron Alloy Seamless Pipe and Tubing, ASTM B167-49T; ASA H34.3
*Sponsor:* American Society of Testing Materials

## Mechanical

***American Standard Approved—***

Butt-Welding Ends, B16.25-1955
*Sponsors:* American Society of Mechanical Engineers; Heating, Piping and Air Conditioning Contractors National Association; Manufacturers Standardization Society of the Valve and Fittings Industry

***In Board of Review—***

Scales for Use With Decimal-Inch Dimensioning, Z75.1

***In Standards Board—***

Preferred Limits and Fits for Cylindrical Parts, B4.1 (Revision of B4.1-1947, Part 1)
*Sponsor:* American Society of Mechanical Engineers

Small Solid Rivets, B18.1 (Revision of B18.1-1953)
*Sponsors:* American Society of Mechanical Engineers; Society of Automotive Engineers

***Project Initiated—***

Plastic Pipe, B72
*Requested by:* Chemical Industry Advisory Board; American Society of Mechanical Engineers

***Reaffirmation Being Considered—***

Reamers, B5.14 (Reaffirmation of B5.14-1949)
*Requested by:* American Society of Mechanical Engineers; Metal Cutting Tool Institute; National Machine Tool Builders' Association; Society of Automotive Engineers

## Miscellaneous

***American Standard Approved—***

Nursery Stock, Z60.1a-1955 (Addenda to Z60.1-1952)
*Sponsor:* American Association of Nurserymen

## Photography

***In Standards Board—***

Dimensions for Medical X-ray Sheet Film (Inch and Centimeter Sizes), PH1.17 (Revision of PH1.17-1953)

Dimensions for Professional Portrait and Commercial Sheet Film (Inch and Centimeter Sizes), PH1.18 (Revision of PH1.18-1953 and combination with Z38.1.29-1949)

Dimensions for 70-Millimeter Unperforated and Perforated Film for Cameras Other Than Motion Picture Cameras, PH1.20 (Revision of Z38.1.3-1948)

Dimensions for Amateur Roll Film, Spool, and Backing Paper No. 828, PH1.21a (Supplement to Z38.1.7-1950)

Method for the Sensitometry of Industrial X-ray Films for Energies up to 2 Million Electron Volts, PH2.8

Method for the Sensitometry of Medical X-ray Films, PH2.9

Focal Length of Lenses: Markings, PH3.13 (Revision of Z38.4.4-1942)

Photographic Thermometers, PH4.7 (Revision of Z38.8.11-1948)

Photographic Graduates, PH4.9 (Revision of Z38.8.12-1948)

X-ray Sheet Film Hangers (Clip Type), PH4.18 (Revision of Z38.8.23-1949)

Internal Dimensions for Deep Tanks for Manual Processing of Amateur Roll Film, PH4.19 (Revision of Z38.8.8-1946)

Channel-Type Multiple Photographic Hangers (Plates and Sheet Film, PH4.22)

Specification for Photographic Grade Sodium Citrate, PH4.179
*Sponsor:* Photographic Standards Board

***Reaffirmation Being Considered—***

Sound Focusing Test Film for 35mm Motion Picture Sound Reproducers (Service Type), PH22.61 (Reaffirmation of Z22.61-1949)

Buzz-Track Test Film for 35mm Motion Picture Sound Reproducers, PH22.68 (Reaffirmation of Z22.68-1949)
*Requested by:* Society of Motion Picture and Television Engineers

## Safety

***American Standard Published—***

Manual on Uniform Traffic Control Devices for Streets and Highways, D6.1-1955 (Revision of D6.1-1948) $1.00
*Sponsors:* American Association of State Highway Officials; Institute of Traffic Engineers; National Conference on Street and Highway Safety.

*Regulatory signs, warning signs, guide signs; pavement and curb markings, object markings; fixed-time and traffic-actuated signal lights; pedestrian loading islands, refuge islands, traffic, channelizing islands and divisional islands; includes standardization of shapes, colors, dimensions, symbols, word messages, lettering, illumination, reflectorization, location, and warrants or conditions under which they are to be used.*

***In Board of Review—***

Prevention of Dust Explosions in Flour and Feed Mills, Code for, Z12.3 (Revision of Z12.3-1953)

Prevention of Dust Explosions in Terminal Grain Elevators, Code for, Z12.4 (Revision of Z12.4-1951)

Prevention of Dust Ignitions in Country Grain Elevators, Code for, Z12.13 (Revision of Z12.13-1953)
*Sponsor:* National Fire Protection Association

***New Projects Requested—***

Auto Seat Safety Belts
*Requested by:* Association of Casualty and Surety Companies, Accident Prevention Department; Industrial Safety Equipment Association

Safety Code for Lawn Mowers
*Requested by:* Lawn Mower Institute

Safety Codes for Nuclear Reactors, Accelerators and Other Related Subjects
*Requested by:* American Society of Mechanical Engineers

***Withdrawal of Project Being Considered—***

Metal Cleaning Sanitation, Z46
*Requested by:* Safety Standards Board

# WHAT'S NEW ON AMERICAN STANDARD PROJECTS

### Nomenclature for Metal End Products, B63—

Impressed by the fact that no organization was sufficiently interested in this project to assume sponsorship for it, the Mechanical Standards Board has voted to drop the project. In case this situation changes in the future, however, the Board voted to drop the project without prejudice to further consideration. The project was requested by the Company Member Conference and approved by the Board in 1953.

### Electric Lamps, C78— Lamp Ballasts, C82—

*Sponsor:* Electrical Standards Board.

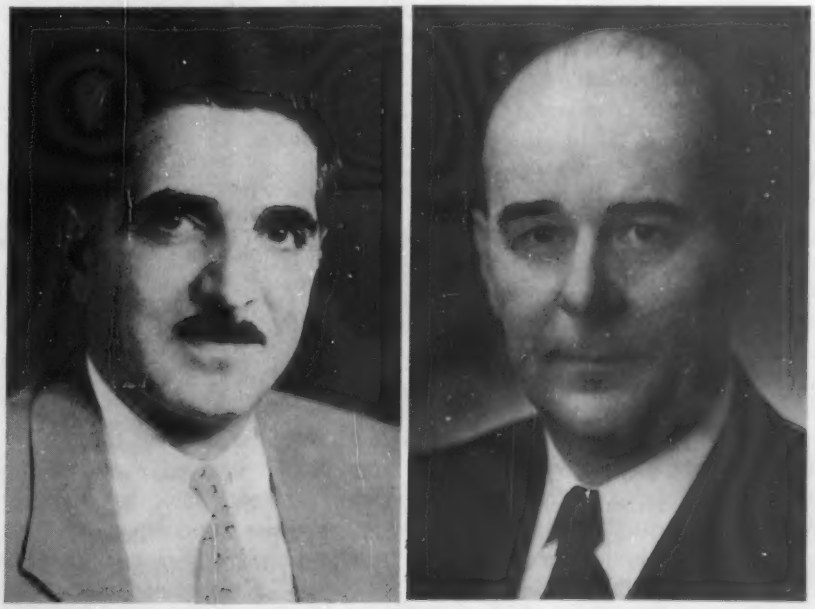
Effective January 1, 1956, the ambient temperature for test purposes for electric discharge lamps and related equipment will be 25 C (77 F). The decision to change the former temperature of 80 F was made by Sectional Committees C78 and C82 by letter ballot vote. Standards already developed by these two committees will be reviewed in light of the changed ambient condition. In addition, international committees working on electric discharge lamps, auxiliaries, and fixtures have been informed of the change. These are the International Electrotechnical Commission technical committees 34A on Lamps, 34C on Auxiliaries for Fluorescent Lighting, and 34D on Fixtures.

### Terminology for Automatic Controls, C85—

*Sponsor:* The American Society of Mechanical Engineers.

The recently organized committee to develop standard terminology for automatic controls has its work well under way. Two meetings have

*Mark A. Princi, left, chairman, Sectional Committee on Terminology for Automatic Controls, C85; and G. W. Heumann, right, the committee's secretary.*



already been held and four subcommittees appointed. These are to work on (1) types and components; (2) signals; (3) modes and parameters; (4) behavior and presentation. A coordinating committee to prevent conflicts in terminology is under the chairmanship of O. W. Livingston, General Electric Company, representing the American Institute of Electrical Engineers.

Officers of other subcommittees are: (subcommittee 2) D. H. Smith, Bell Telephone Laboratories; (3) W. I. Caldwell, Taylor Instrument Company; (4) H. L. Mason, National Bureau of Standards.

Mark A. Princi, General Electric Company, representing the American Society of Mechanical Engineers, is chairman of the sectional committee, and G. W. Heumann, also of General Electric but representing the American Institute of Electrical Engineers, is secretary. Mr Princi, a graduate of the University of Colorado, has been with G-E since 1930. He is manager of the Measurements Laboratory of the Instrument Department's West Lynn Works. A member of a number of societies, he is past chairman of the Lynn section of AIEE, and Junior Past President of the Engineering Societies of New England.

Mr Heumann is Consulting Engineer, Industry Control Department of General Electric. Born in Germany, he has a master's degree in electrical engineering from Technical University in Dresden. He worked for Siemens-Schuckert on industrial application engineering problems before emmigrating to the United States in 1926. He joined General Electric in 1931 where he organized the circuit development group. Mr Heumann is a member of NEMA and vice-chairman of the General Engineering Committee of the Industrial Control Section. He is author of the book, *Magnetic Control of Industrial Motors*.

### Letter Symbols, Y10—

*Sponsor:* American Society of Mechanical Engineers.

A draft standard covering Letter Symbols for Feedback Control Systems has just been circulated for comment and criticism by ASME.

This proposed American Standard has particular significance at this time when automation is receiving so much attention as a means of meeting the ever increasing demand for high quality products at reduced costs and the science fiction dream of yesteryear is becoming reality. It was not until the science of feedback control had advanced to its present stage that such possibilities could be given serious consideration.

Of necessity, the subcommittee developing this standard found that it had first to reach agreement on certain fundamental concepts and the definitions of terms for which letter symbols were required. A basic block diagram was worked up as the best way to identify, define, and describe these concepts and set forth the relationships within a feedback control system. Since these preliminary decisions are outside the scope of this committee, they cannot be considered a part of the American Standard when approved. However, they are of such pioneering value in this field, which heretofore has been so individualistic as to almost defy comprehension, that both a block diagram and an Alphabetical Index for Definitions are included as appendices.

*Copies of the proposed standard may be obtained by those willing to review it and offer constructive criticism, from the ASME, 29 West 39th Street, New York 18, New York.*

### Drawings and Drafting Practice, Y14—

*Sponsors:* American Society for Engineering Education; The American Society of Mechanical Engineers.

Section 9 on Forgings of the Proposed American Drafting Standards Manual is now being distributed for criticism and comment. Charles M. McMahon, Chief Draftsman, Bay State Abrasive Products Company, Westboro, Mass., is chairman of the subcommittee that prepared the draft. When completed, this will be one of 17 sections that will be published separately, but together will comprise the complete drafting standards manual.

Copies of the tentative draft of Section 9 can be obtained by writing Frank Philippbar, Standards Department, The American Society of Mechanical Engineers, 29 West 39 Street, New York 18, N. Y.

### Acoustics, Vibration, and Mechanical Shock, Z24—

*Sponsor:* Acoustical Society of America.

Anyone who believes there should be changes or additions to American Standard Acoustical Terminology, Z24.1-1951, should send his suggestions at once to the chairman of the writing group that is preparing a revision of the standard. The chairman is Robert W. Young, U.S. Navy Electronics Laboratory, San Diego 52, California.

The standard is now being revised to correct errors and to add definitions needed in the widening field of acoustics. The revision is being based largely on comments received on the existing standard. The Writing Group plans to complete the draft for submittal to Sectional Committee Z24 by June 1956.

*Anna Fisher*

### Home Cooking and Baking Utensils, Z61—

*Sponsor:* American Home Economics Association.

Anna Fisher, associate editor of household equipment on the staff of McCall's Magazine, has been appointed chairman of committee Z61.

Miss Fisher, a graduate of Syracuse University's College of Home Economics, is well known as an expert in household equipment and home economics. She has worked with the Philadelphia Electric Company as home economist, and as home economics director of the Metropolitan Edison Company in Easton, Pennsylvania before joining McCall's in 1948. She is a member of the American Home Economics Association, and of the Standards Council and Consumer Standards Board of the American Standards Association. Miss Fisher is a former chairman of Household Equipment for the New York Home Economics in Business Group and has been Workshop Chairman of the Electrical Women's Roundtable.

Sectional Committee Z61 developed the American Standard Dimensions, Tolerances, and Terminology for Home Cooking and Baking Utensils approved in 1949. It is continuing work on standards for other utensils used in home food preparation.

**Anaesthetic Apparatus—**

Interchangeability of anesthesia apparatus, particularly endotracheal equipment, is needed, the Committee on Standardization of Anesthetic Equipment of the American Society of Anesthesiologists has informed the American Standards Association. The committee asked ASA to determine whether it is desirable to initiate a project for development of an American Standard. Scope of the work to be undertaken might include uniform sizes, dimensions, tolerances, specifications, and methods of test of catheters, connectors, and allied pieces, as well as the materials from which they are fabricated, according to the committee's suggestion. Suggested participants in the work are manufacturers of the equipment, the American Society of Anesthesiologists, the suppliers of materials, including plastics and anti-static rubber, the U.S. Bureau of Mines, and the National Fire Protection Association.

The proposal will be referred to a General Conference of interested groups for their recommendation.

# STANDARDS OUTLOOK

*by* LEO B. MOORE

*Organization Theory*

In some quarters there is apparent objection to the proposition that the standards engineer in his endeavors should cut across organization lines. This position states that to encourage any member of a well-defined organizational structure to violate some phase of organization principle is tantamount to business treason.

If a standards engineer should join the purist in these sentiments about organization theory, he would find much merit in this argument. For, of all the people in a company who should abide by organization principles, the standards engineer should be in the forefront. The net result of organization theory is basically standardization and in many ways the work of organization people is similar to the work of standards engineers.

The theory of organization is simply that we break down the whole endeavor in terms of the work that must be done until we have an assemblage of jobs that together add up to the desired accomplishment. These portions of the whole are related in lines of communication, thus all know that they are contributing to the whole.

To sustain the theory of organization, principles have been developed and elaborated through the years. All delegation of responsibility should come from the top downward; and with every responsibility there should be given an equal amount of authority. This delegation of responsibility and authority should be placed in writing in specific terms and should be pictured in an organization chart. The chart should show the relationships of all the jobs in the enterprise and the lines of communication through which are carried messages of action, direction, and control.

In their work, organization planners using principles akin to standardization but thinking in terms of jobs and relationships do develop standards of organization. Managers have accepted these standards and have learned to live with them.

But organization people might learn from standards engineers that many standards become obsolete and require review. The organization theorists think only in terms of jobs. The jobs are decided upon first, and then, people are fitted to the jobs. And people, more often than not, don't fit. They have their levels of ability, their interests, and their hopes, and these are all in constant change. Thus, we have the paper organization that is fixed and the human organization that is in flux. People try to conform to the chart, but it is more natural for them to act in accordance with personal and social motivations. They change the organization and the standard that depicts it.

More managers are aware that an organization chart is at best a standard at some point in time. There is even some suggestion that perhaps the theorists should change their principles to conform to the reality of human relationships. For this reason, managers no longer tend to argue with a standards engineer or anyone else who gets action and results by cutting across the organization lines.

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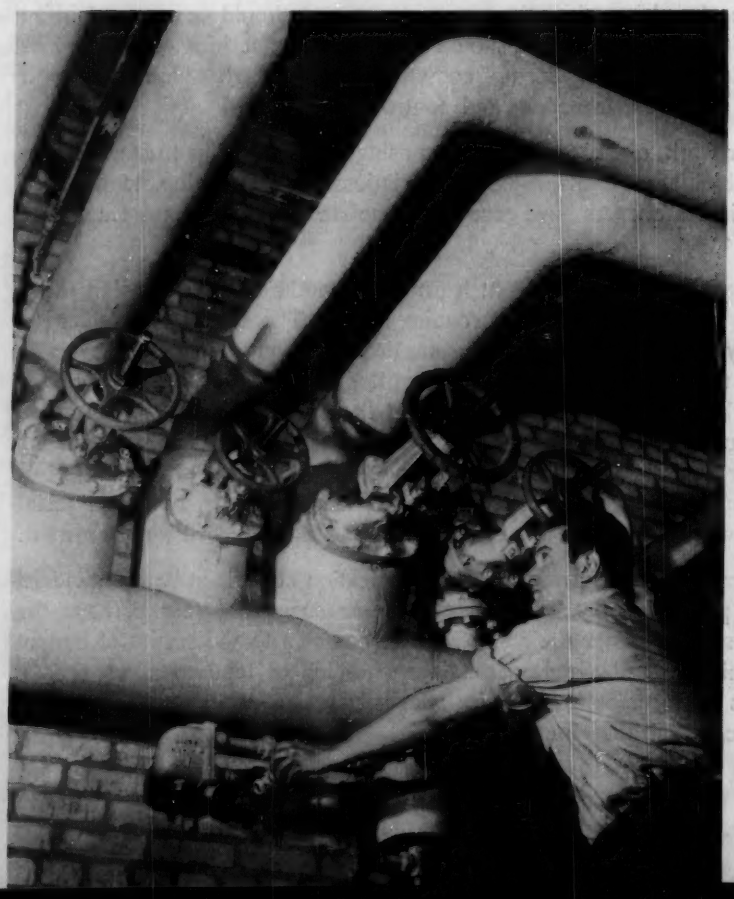
***Applies to:* —**

power piping systems for steam generating plants; industrial gas and air piping systems for conveying air and other non-corrosive gases; refinery and oil transportation piping systems; district heating piping systems; piping and component parts for refrigerants and brines; fabrication details; materials—their specifications and identification.

***Important 1955 changes—***

a completely revised section on fabricating details, taking into consideration new materials, welded branch connections, fabricated pipe fittings.
welding procedures and standards prepared especially to apply to pipe welding.
a new approach to methods of providing for thermal expansion and flexibility.
a self-contained section making it easy to find requirements for industry air and gas piping (now divorced from gas transmission and distribution piping).



***When you select materials, choose dimensions, design parts and assembled units, erect piping systems, test elements before erection, or test completed systems after erection, the new 1955 edition, just published, has the minimum requirements you need, up to date in light of today's changing conditions.***

***Now available—***

American Standard Code for Pressure Piping B31.1-1955, 140 pp, $3.50.

*Published separately* — Section 8, Gas Transmission and Distribution Piping Systems B31.1.8-1955, 108 pp, $2.50.

*Prepared and revised by Sectional Committee on Code for Pressure Piping,* B31, *sponsored by The American Society of Mechanical Engineers, under American Standards Association procedures.*

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